The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. No. 25 TULSA, OKLAHOMA, MAY 22, 1924

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Production at New High Point for 1924

Average daily production in United States week ended May 17, 1,987,837 bbls. Gain over previous week, 15,222 bbls.

Luling, Tex., and Stroud and Cromwell, Okla., Increase While Other Fields Display Unexpected Staying Power

Highest daily average estimated production this year, week ended May 17, 1,987,837 bbls. Lowest, January 12, 1,871,143 bbls.

By James McIntyre

The action of the Humble Oil & Refining Company in reestablishing its former crude price scale in the North and Central Texas fields as if it had not made a cut at all, had an encouraging effect on Mid-Continent oil men. The Humble had reduced crude from 5 cents to 25 cents, according to grade, following the Magnolia Petroleum Company's announcement of a reduction, making it apply as of Friday, May 9, but on Monday, May 19, it rescinded this action leaving the Magnolia the only one of the major purchasers to have cut the price.

Following the action of the Humble came the disturbing news of a 10,000-barrel well in the Guadalupe County side of the Luling Field, in Texas, and on Tuesday news was received of a 11,000-barrel well in the new Cotton Valley Field in Webster Parish, Louisiana, located a quarter of a mile distant from the discovery well, but the latter well later fell to 900 barrels, half of which was salt water. This week's reports show a considerable falling off in the production of the Powell Field, in Navarro County Texas, sufficient to bring the East Central Texas output down 6,000 barrels a day. Oklahoma had an increase in production of 3,300 barrels a day. Burbank continued to fall, notwithstanding a host of recent completions and later news from that field showing that the "million-dollar leases" recently purchased were productive of only small wells during the past week indicates that Burbank will not be a factor in any overproduction we may have this year. The increase in Oklahoma came from the newer fields of Stroud, Lincoln County and Cromwell, Seminole County, both of which promise to further increase their daily output. Fully 50 wells in the Cromwell Pool are regarded as inside wells and all these should be completed by June 15. In addition there are a few others drilling on outside locations not far removed from the center of developments.

California production increased 2,000 barrels a day and the increase in the Luling Field boosted the Gulf Coast-Southwest Texas production over 10,000 barrels. The Guadalupe County end of the Luling Field is richer in crude than the older Caldwell County side. New wells average higher in initial production and wells of the gusher class have thus far been proportionately more numerous. The product, from which no gasoline may be extracted in straight refinery operations, may not figure prominently in the production of motor fuel. It more closely resembles Coastal than other crudes and may be used to replace the dwindling Coastal production.

At the opening of the year it was said optimistically that crude production in the United States could be expected to steadily diminish through most of the year and that there were no big fields in sight. At that time Luling was not considered a potential factor of prominence. The Stroud Pool and the Cromwell Pool were not taken with great seriousness. Powell was expected to be in the 60,000-barrel class by May 1 and the California production as of May 1 was discounted. Very few production estimates made around New Year's day have proved anywhere near correct, and instead of the production curve falling it continues to hug closely the line of last year up to this time. It is the unexpected event that upsets the calculations of oil men. No one was looking for an 11,000-barrel well in Cotton Valley, Louisiana, and even for a part of a day such an initial producer must lead to the thought that the field may show other wells of large output more favorably located on the structure. It is new territory and therefore difficult to judge. It would not take many Lulings, Strouds and Cromwells to put production up to a dangerous point, as the older fields are not falling off as rapidly as they were expected to when the year opened. Powell is believed to be definitely declining and so is Burbank after their spurt in the late winter and early spring and the season of big consumption is approaching. All is yet well, but the trade would have rather seen these big wells come in later in the year than just at this time.

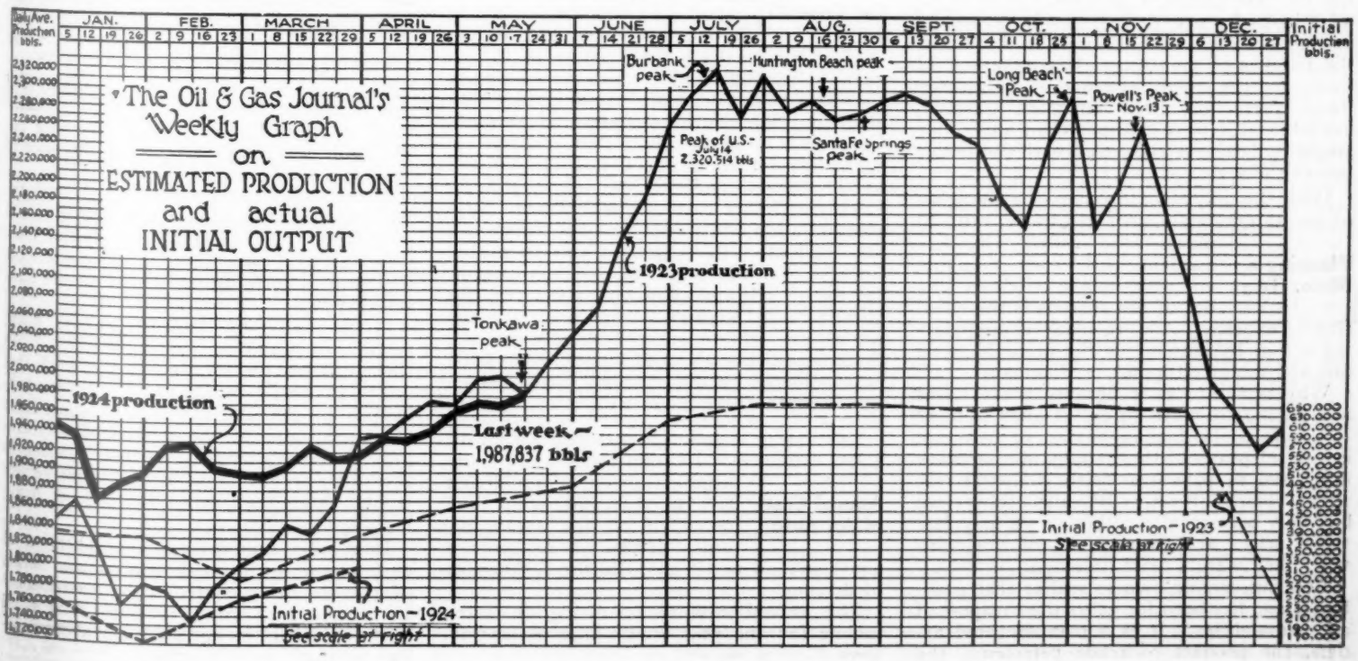
However, encouragement may be had in a glance at the production chart on this page. Production now and a year ago were about on the same level, but last year's big overproduction began about May 15 and continued by leaps and bounds until well into July and not showing any definite decline until the middle of November. We are in no danger of such a performance this year. Production may reach and even exceed the 2,000,000-barrel mark before there is a definite decline but if it comes it should be in a period of large consumption.

PRODUCTION IN THE UNITED STATES

Estimated daily average production in the oil fields of the United States for the week ended May 17, and a comparison with previous week follows:

Fields	May 17	May 10
Oklahoma—Northern Fields:		
Tonkawa	35,220	35,400
Burbank	86,215	91,880
Other Osage Fields	51,000	47,200
Cushing and Shamrock	23,950	23,910
Bristow and Eastern Bristow	52,400	52,950
Northern Miscellaneous	117,850	113,200
Healdton	16,725	16,820
Hewitt	19,840	19,775
Southern Miscellaneous	37,415	36,150
Total Oklahoma	440,615	437,285
North Louisiana	53,855	43,625
Arkansas—		
El Dorado and Calion	13,100	12,500
Smackover Light	37,525	37,225
Smackover Heavy	98,700	98,190
Stephens and Nevada County	3,585	3,420
Total Arkansas	152,910	151,335
North Central Texas	127,665	125,260
East Central Texas, Mexia, Currie, Corsicana, Powell)	141,510	147,600
Kansas	72,300	71,450
Total Mid-Continent Area	988,855	986,555
Gulf Coast and Southwest Texas	126,087	116,300
Eastern	105,650	105,750
Wyoming-Montana	130,245	129,010
California—		
Santa Fe Springs	70,000	70,000
Long Beach	169,000	170,000
Huntington Beach	48,0000	47,000
Torrance	58,000	58,000
Remainder of State	292,000	290,000
Total California	637,000	635,000
Total United States	1,987,837	1,972,615

Increase, 15,222 Barrels



Odds Against Wildcatter---Article No. 6

Oil Industry Not Acting Like a Monopoly. Cost of Gasoline Small Item in Expenses of Summer Motoring Tours

Although the national conventions are still in the future betting is already proceeding briskly in New York on the result of the presidential election. One day last week the odds were 100 to 55 that Coolidge would be elected.

Odds Against Finding Oil

The public which thinks of odds in betting as a perfectly natural thing, believing that the man who takes the bigger risk should win a proportionately larger reward, never applies this to the oil industry. Yet the record in "The Oil Industry's Answer" shows that of the wildcat holes drilled in 140 counties in five Mid-Continent States in 1923, 81.3 per cent were dry.

Suppose these operators had been merely betting on the chance of finding oil what would the ordinary odds be on the fundamental hazard of the oil industry, the finding of the raw material on which the motorists' supply of gasoline depends?

If the oil industry was paid in proportion to the risk taken what would be the price of gasoline?

No Corner in Gasoline

The most persistent lie about the oil industry is the tradition about its control by a monopoly. Let the motor car owner figure out the facts for himself.

In 1909 there were 588 barrels of oil available for each motor car in the United States. In 1913 there were only 194 barrels for each car. In 1923 there were but 47 barrels for each car.

With the demand increasing so amazingly and the supply of fuel decreasing so rapidly what would any monopoly have done? Would not it have raised the price as the supply of raw material decreased so as to get the last cent out of it?

Instead the oil industry set about extracting the last gallon of gasoline out of what oil it had. By new processes it increased its production of gasoline six times so that while the number of motor cars has increased 12 times and the supply of crude oil only three times there has been abundant gasoline available at a price cheaper than any other staple in daily use compared with the prices before the war.

Planning a Motor Trip

With the advent of summer the thoughts of an automobile owner naturally turn to plans for a motor trip. Coincident with such thoughts and plans in the minds of nine out of ten persons is the question of expense. And, to many contemplating a tour by automobile the price of gasoline and motor oil looms predominant.

Why is this? Is it because these items are purchased more often on such a trip? It seems to be human nature to be more critical of prices of these things we purchase daily and to pass over with comparatively slight complaint prices of other things we buy only occasionally, although we may feel those prices are entirely out of line with what they were a brief time ago.

Few automobile owners realize that gasoline is and has been for years the cheapest of all commodities. It is a manufactured article, the product of crude petroleum, the raw material, and made by skilled workmen in the process of refining. Yet while prices of every other commodity have doubled and even trebled during the period of the past ten years gasoline has continued at a price only slightly above, and often below, what it was ten years ago.

Gasoline Cheapest Item

Last December the price of gasoline, according to Government figures, was 16 per cent less than it was ten years before, and in January of this year it was still lower in price than it was ten years ago.

And, yet, at the same time, other articles of necessity were anywhere from 50 to 100 per cent more; cloth and clothing in January of this year, according to the Government, cost us twice as much as they did in 1913; sugar was 96 per cent higher; potatoes 40 per cent greater; eggs 80 per cent more and the average price of all commodities 51 per cent greater. Yet, gasoline was 3 per cent less.

Is not that something worth considering during periods of agitation about the oil business? Does it not mean something when Government figures covering the period from 1913 to the present time showed gasoline is and has been the cheapest of all commodities?

Any automobile owner who keeps an account of his expenses of operating a car, knows gasoline is the cheapest thing about running an automobile; for the average automobile the money paid for gasoline represents only 15.6 per cent of the total yearly cost—figure it out for yourself.

Figure It for Yourself

The average price paid for an automobile is $900. Suppose that car will last six years, which would be a long time for a $900 car; but say at the end of six years the owner had nothing of value left in the car? That means a depreciation of $150 a year. The trouble with most car owners is they fail to consider depreciation and wear and tear. Depreciation is a one-time expense. Gasoline is an almost daily item of cost.

For interest 10.8 per cent should be allowed on the amount paid for the automobile, or, $54 a year in the case of this $900 car. Suppose we allow $30 a year for tires, which is a low estimate. Few garages can be rented for less than $10 a month, but suppose we cut this in half and allow only $60 a year for garage rent. Repairs would easily average $75 a year, while insurance against fire and theft would take about $18 more. Then must be considered license tag, and taxes, which would mean another $25 to the yearly cost.

Annual Cost of An Auto

Calculating a gallon of gasoline a day, or, a low estimate of 10 miles a day at 21 cents a gallon, gasoline would cost $78 a year. Allowing one quart of oil for every 100 miles driven at 25 cents a quart, say oil would cost $10 for 5,000 miles of driving.

The annual cost of operating an automobile for one year would then be as follows:

Depreciation	$150	30.0%
Interest	54	10.8
Tires	30	6.0
Garage	60	12.0
Repairs	75	15.0
Insurance	18	3.6
License and taxes	25	5.0
Gasoline	78	15.6
Oil	10	2.0
Total	$500	100.0%

How Other Costs Have Risen

When you consider that only a few years ago the price of admission to a motion picture show was 5 or 10 cents and that it is now 50 cents; that $25 used to buy a man a mighty good suit; that $7.50 was considered a high price for a pair of shoes and that all other expenses for clothing, the household and food have risen in a proportion much like the items mentioned, do you not think the oil industry deserves some credit for keeping the price of gasoline down to an average only slightly above what it was during the days of the 5-cent picture show?

And did you ever stop to consider the fact how convenient it is to purchase gasoline? It is obtainable at almost every corner or crossroads throughout the United States. It can be bought at night as well as during the day time and on Sundays and holidays. But with all these conveniences and the little services, such as free air, water, so helpful to the automobile owner, the Government figures prove that the price of gasoline during 1923 was only 12 per cent greater than it was in 1913.

Does This Look Like Monopoly?

In a recent issue the Kansas City Star said editorially:

"A campaign for the removal of the gasoline curb pumps in Kansas City has been undertaken. There are three hundred such pumps in Kansas City. They are unsightly and untidy and this is one of the few cities in the country that tolerates them. Besides they are unprofitable and tend to increase the price of gasoline.

"The pumps have multiplied through the bad habit of the council of issuing special permits for the violation of general laws. Other cities do not have to suffer under the infliction of such 'uglies.' Why should Kansas City?

"Incidentally, the multiplication of filling stations is wasteful and expensive. When there are five stations doing the work that one might easily do, the gasoline buying public has to pay the cost of the superfluous equipment and of the men needlessly employed. This wasteful expense is added to the price of gasoline. Extravagant service is one thing that keeps the cost of living high."

Does this unnecessary multiplication of curb pumps fit in with the popular notion of gasoline being controlled by a monopoly? Do people rush into a business that is all "cut and dried," as agitators say about gasoline selling?

"Must Defend Selves or not be Defended"

Judge Beaty of The Texas Co. Challenges Authority of Federal Trade Commission to Prowl in Private Files of Industry

By L. M. Fanning

Of particular interest to the oil industry at this time in view of its recent experience with agents of the Federal Trade Commission who have gone into private files of many companies in connection with the commission's investigation of gasoline prices and also in view of the imminence of the commission's report to the President, is the stand taken by The Texas Company regarding the commission's right to examine private files. It is learned that The Texas Company is one of the few oil companies which have opposed the commission's activities in this direction, basing its position on purely legal grounds. While it is known that many oil companies hold the same view as that of The Texas Company, they have declined to make an issue of the matter and have submitted to all the commission's requests. The position of The Texas Company was taken on the initiative of its president, Judge Amos L. Beaty, formerly general counsel of the company. The matter of the commission's authority with respect to conducting "fishing exhibitions" has been referred to frequently on this page.

COMMISSION'S "FISHING" PRIVILEGES QUESTIONED

* * *

In a signed editorial in the May issue of the Texaco Star entitled "The Federal Trade Commission," Judge Beaty declares: "If we do not defend ourselves we shall not be defended. If, seeing the place where official activity ends and private rights begin, we have not the courage to speak out, we are unworthy of trust and our self-respect is forfeited. One beauty of our system of Government is that every citizen, high or low, has the right to be heard if the Government goes too far, and is not hanged or put in stocks if he states the facts."

"MUST DEFEND OURSELVES OR NOT BE DEFENDED"

* * *

Judge Beaty states that The Texas Company responded with promptness and in full cooperation to the Federal Trade Commission's questionnaires and other requests; that it collaborated in every way with agents of the commission and that if the work in providing the information had been done by independent accountants it would have cost at least $50,000. He states that a request of commission agents for permission to examine the files of the company at its Denver office was declined, under his telegraphic instructions, on the ground that the commission had no right to go into the files on a fishing expedition. Conferences were held between Judge Beaty and the attorney of the commission, and the company did not change its attitude. Subsequently the United States Supreme Court rendered its decision in the case of the Federal Trade Commission versus the American Tobacco Company, P. Lorillard & Company, etc., to the effect that it is contrary to first principles of justice and to the Constitution to search private records merely on the chance that something will turn up. In spite of this decision and of the known attitude of the president of the company, representatives of the commission made their requests on the company's Houston and Chicago offices. In the latter case the local representative of the company permitted them to examine the files. Judge Beaty asserts that "the commission had no more right to have its agent prowl through these files than it had to search the clothes on the back of a citizen."

TEXAS CO.'S EXPERIENCE WITH COMMISSION

Stating that this is not the first time the company has been unfairly treated by the commission, in the same editorial, Mr. Beaty reveals for the first time the basis of the Federal Trade Commission's previous statements that a certain percentage of the stock of The Texas Company is owned by stockholders of the Standard Oil Company. He asserts that these findings were made by the commission checking up holdings of brokerage houses and wherever a house held The Texas Company stock and also Standard Oil securities, the total of The Texas Company stock so held was put down as stock held by a stockholder of the Standard Oil Company.

REGARDING STANDARD OIL HOLDINGS IN THE TEXAS COMPANY

* * *

Judge Beaty contends that such examinations constitute an unreasonable search and are prohibited by the Constitution of the United States in the Fourth Amendment, reading as follows:

"The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized."

STANDS ON FOURTH AMENDMENT

In the case of Federal Trade Commission v. American Tobacco Company, the Supreme Court settled the question definitely, holding that the commission lacked the power asserted. Justice Holmes, in writing the unanimous opinion of the court said:

"It is contrary to the first principles of justice to allow a search through all the respondent's records, relavent or irrelavent, in the hope that something will turn up. Anyone who respects the spirit as well as the letter of the Fourth Amendment would be loath to believe that Congress intended to authorize one of its subordinate agencies to sweep all our traditions into the fire and to direct fishing expeditions into private papers on the possibility that they may disclose evidence of crime."

* * *

Judge Beaty's article in the Texaco Star continues:

"The company was not in fear of its files showing anything criminal, illegal, or improper. It simply took the position that the request of the commission was unreasonable. If business is to be carried on successfully there must be some limit to impositions of the kind attempted. The commission had no more right to have its agent prowl through these files than it has to search the clothes on the back of a citizen. If its subordinates had proceeded without the authority or approval of the commission they could be excused on account of possible ignorance. But that hardly applies to the commission itself.

NOTHING TO FEAR IN FILES

* * *

"And this is not the first time that the company has been unfairly treated by the Federal Trade Commission. There was an investigation in 1916 of the price of gasoline in 1915. At that time it seemed doubtful in the public mind whether there were any oil companies of consequence that were not controlled by what was known as Standard Oil interests. The Texas Company from its beginning had been an independent in every sense of the word. It had passed through competitive struggles with members of the Standard group which but few can appreciate. It had proclaimed its independence at all times, and if it was not truly independent it had misrepresented its status. Being in apparent competition with members of the Standard group, it was sailing under false colors if this status was not actual. What happened? The Commission in its report, in discussing the matter of competition and the dominant position of Standard companies, made the following statement.

UNFAIRLY TREATED

"Standard stockholders owned about....25 per cent of the stock of The Texas Company. And at page 157 it was said: In 1915 over 20 per cent of The Texas Company stock was owned by stockholders of Standard companies. Note the fact that the ownership was not said to be by Standard companies. The statement was ownership by stockholders of Standard companies. But fancy the impression upon the public mind!

* * *

"It developed that the commission had employed a remarkable process. In 1915 this company had only about 1,500 stockholders, and approximately 27 per cent of its stock was held in the names of brokerage houses. (At the present time it has over 30,000 stockholders, and only about 15 per cent is held in the names of brokerage houses.) These houses, as a rule, did not own the stock themselves in any true sense but carried it for clients on margin. This applies also to every other stock of importance; they carry in the same manner railroads, industrials, and what not; and the practice is not limited to listed stocks but includes curb stocks and those which are traded in over the counter. Almost every important house carries more or less stock of our company and at the same time more or less stock of every other leading company, for clients in the manner stated. Now the Commission, having required the various oil companies to furnish lists of their stockholders, compared these stock lists and found that from 20 to 25 per cent of our stock stood in the names of houses which appeared on the stock lists of companies in the Standard group, and every share of our stock thus held was put down as stock held by a stockholder of a Standard company. To illustrate, if a house held 50,000 shares of our stock and one share of some Standard company, 50,000 shares of our stock was considered held by a stockholder of the Standard Company. And this was done although the client for whom the house carried our stock owned none of the other stock and the house itself owned none of either.

A REMARKABLE PROCESS

* *

The purpose of these observations upon the report of 1917 is not a thrust at the Standard Companies. Perhaps their grievance was as great as ours. The facts have been stated in black and white so that the reader can draw his own conclusions. Members of our organization should not feel that we are at war with the Commission. It is sufficient if they understand that we act under the first law of nature. If we do not defend ourselves we shall not be defended. If, seeing the place where official activity ends and private rights begin, we have not the courage to speak and act, we are unworthy of trust and our self-respect is forfeited. One beauty of our system of government is that every citizen, high or low, has the right to be heard if the Government goes too far, and he is not hampered or put in stocks if he states the facts.

COURAGE TO SPEAK OUT

The Federal Trade Commission is an important tribunal and was needed. Commercial enterprises are often inclined to be greedy or unfair, the public needs protection, and there should be a commission to interpret and enforce the rules of commercial justice. It should have the unqualified support and cooperation of every business institution in the land to the fullest extent that respect for private rights will permit. So far as our company is concerned, we will continue to aid the Commission in every lawful way.

New Navy Gasoline Firm in Group 3

Distress Material Removed by Export Order of Week Ago. Higher Gravities and Natural Gasolines Lower in Price. Little Change in Other Products

By C. O. Willson

With all of the so-called "distress" New Navy apparently absorbed by the large export order of the previous week, prices on that product and others of the widely utilized domestic motor grades were generally firm in Group 3 (Oklahoma) during the past seven days. The higher gravity gasolines are slightly lower in prices with a greater slump in the absorption grades of natural gasolines.

There were several important changes in other products. The fuel and gas oil movement continues slow and the general market in fuel oil is 2½ to 5 cents under that of the previous week. The demand for kerosenes continued sufficiently strong to maintain the prices in effect since the first of the month. The movement of lubes has been slow and prices on the cylinder grades have been lowered again. Further price concessions became effective in the spot movement of wax.

Within a day or two after the Standard Oil Co. of New Jersey's 10,000,000-gallon purchase of New Navy gasoline from Mid-Continent refiners on May 13, quotations on New Navy became generally 9¾ to 10 cents. A few refiners sought higher prices and for a few days there was small amount under the 9¾ cent price. The cheaper material largely disappeared before the end of the week and quotations above the 10-cent price were also rare among refiners endeavoring to interest domestic buyers.

Effect of Export Order

The effect of the large export order was very apparent. Refiners generally are more optimistic than at any time since March. Particular care was taken by the New Jersey company to purchase from refiners especially desirous of moving New Navy and the order was large enough to satisfy all immediate requirements.

Some of the trade were somewhat surprised that the domestic buying did not show greater activity following the announcement of the export purchase. Many had apparently expected the jobbers would rush into the market immediately in expectation of higher prices. There has been some increase in the domestic buying coming largely from the small jobbers. This buying apparently was not due to any fear of the jobbers that prices were to start upward but simply a development of increased consumption. With little storage this class of jobbers are always in the market from week to week to cover their current requirements.

Many market observers are not surprised by the seeming continued apathy on the part of many buyers. A majority of the larger jobbers have not hastened into the market because they have their requirements covered over the balance of the month and are not yet satisfied their best interests require additional purchases. This development is in line with the prediction by several veteran marketers when the export purchase became known.

These market students believe the real test of the gasoline market will come next week. At that time many buyers will be in the market for their June requirements or at least over the first half of the month. Further, by that time from the refiners standpoint the New Jersey purchase will have lost some of its effect and the sellers will be more interested in making sales than at present.

Trend Up to Refiners

Refiners themselves agree the market trend is largely in their hands. If they continue to present the same solid front as at present their battle for prices, which will permit them at least to break even has probably been won provided no disastrous situations develop in the crude and tank wagon price structures.

Contrary to the belief expressed by some, responsible jobbing interests are not endeavoring further to break the refinery prices on gasoline. These jobbers are aware such a break will not only seriously injure their sources of supply but will also assure a decline in their tank wagon prices. It is true they have stayed out of the market recently as much as possible, a natural development when the chaotic refined market situation of the past year and a half is recalled. It is certain these buyers will get into the market and stay there just as soon as they are assured the refinery market is to show no further price weakness over the summer months.

In speculating what the sellers will do over the remainder of May those who keep in close touch with refined markets in Group 3 are keeping in mind the varying positions of the refiners. It is becoming more and more apparent that even in the Mid-Continent Field or a small part of it there is no unanimity of opinion as to the proper attitude for the refiner to take when a situation like the present develops.

Jobbers have sensed this difference of opinion as indicated last week when the Weekly Bulletin of the National Petroleum Marketers Association editorially advocated the organization of a new refiners' association to be dominated by those refiners who are not connected through ownership with individuals or companies having crude production. It was contended that at present refiners' associations were dominated by those concerns whose chief interest lies in the protection of the crude rather than the refinery market, resulting disastrously many times to the independent refiner who buys his crude from a producer and sells his products to the jobber.

In the present situation several of these refiners are known to have stated frankly that their interests would best be served with a reduction in crude. There has been no open protest by them against the position taken by a majority of the refiners in opposition to a reduction in crude prices, but the secret dissension applies to a substantial minority and has caused some uneasiness as to whether the refiners will be able to show the unity of action needed at this time.

Probably the most assuring development of the week was the action of the Humble Oil & Refining Co., which on Monday went back to the schedule of crude prices before its reduction on May 10. The action is explained elsewhere in this issue. In refinery circles it was interpreted as one more indication that major oil interests are endeavoring to prevent a general decline in all oil markets.

A disturbing development lay in reports concerning additional reductions in tank wagon prices throughout the Middle West. These reductions in several instances are in smaller towns and not reflected in the published schedules of the Standard Oil Co. of Indiana. The most important reduction was in Omaha, where in a fight of several months with city-owned retail facilities, the major marketing interests were forced to meet the price of their competition.

Gasolines and Naphtha

The largest purchase of the week was that of the Sinclair Refining Co., which is understood to have purchased 100 cars of 64-66, 375 for export. This purchase was divided between North Texas and Group 3 refiners. Although the price was slightly under the domestic market at the time of purchase, it nevertheless relieved a few plants of distress material already loaded in tank cars awaiting shipment orders. The high gravity grades are very weak and additional purchases are needed to give them the strength of New Navy. The domestic movement of the high gravities is fair but stocks have been accumulating since the export buying stopped late in March.

Some improvement was reported in the demand for naphtha. This demand came from blenders.

Fuel and Gas Oils

Further weakness is apparent in the fuel oil market. Complaint is made by a few refiners that the railroad buyers are taking out minimum amounts on their contracts and as a result more material is available on the spot market. There is no improvement in the demand from industrial consumers. Marketing organizations state they find many manufacturing establishments shut down or only operating part capacity in the Middle West and in making sales are also experiencing stiff competition from coal.

The 24-26 grade of fuel oil was available in small quantities under 85 cents. Lower gravities sold as low as 80 cents. Gas oil is unchanged although buyers are endeavoring to secure lower prices.

Kerosenes and Distillates

No complaint is heard as to the demand for kerosenes. Several refiners are sold up over the balance of the month. The higher gravity grades are easier than the first of the month, the greatest scarcity during the past week being in the 41-43, water white grade.

Distillates continue firm as to price. Several small purchases were reported.

(Continued on Page 127)

REFINED MARKET BAROMETER

Developments in the gasoline markets at the refineries throughout the United States were again not uniform. Firmness in motor grades was apparent throughout Middle West and Southwest during the past week with indications of strength along West Coast. The market was unsettled in the East with pronounced weakness reported in Pennsylvania area. Scattered reductions in tank wagon prices was also a disturbing factor. Weather conditions generaly were not favorable for maximum gasoline consumption. Fuel oil movement was slow in all areas except West Coast where product continues strong. Kerosenes are strong in Middle West but prices are lower in several areas. Demand for lubricating oils has slumped in several sections and scattered price reductions reported. Wax prices have been lowered generally.

Mid-Continent—New Navy prices advanced ¼ to ½ cent a week ago following large export purchase and continued generally firm since that time. Prices on higher gravities have been lowered in North Texas, Oklahoma and Kansas. Kerosene prices were generlly firm in all areas except North Texas, where reductions were made. Demand for fuel oil has shown no improvement and further price concessions have been necessary in Oklahoma and North Texas. Natural gasolines generally weak and prices lower. Cylinder stocks lower in price.

Atlantic Seaboard—Additional offerings of gasoline from other refining areas reflected in scattered tank wagon reductions. Some fear expressed that situation will result in lower tank wagon prices temporarily. Lubricating oil dull. Fuel oil more plentiful due to receipt of outside shipments. Less demand for export gasolines, kerosene and lubricants.

Pennsylvania—Market generally weak especially gasolines. Demand not sufficient to take distress gasoline from market. Both neutrals and cylinder stocks soft. Fuel oil prices lower. Wax prices lower.

Gulf Coast—Zero cold test oils soft. Several buyers staying out of market in expectation of lower prices. Situation largely reflection of weakness in other areas.

Chicago—Weather had aided gasoline consumption but refinery sales not greatly increased due to uneasiness as to tank wagon market. Good movements of kerosenes and prices firm. Hand to mouth buying of fuel oils with lower prices expected.

GASOLINE IS SLASHED 3¼ CENTS IN PRICE WAR IN CITY OF OMAHA

OMAHA, Neb., May 20.—The gasoline price war which was waged in Omaha last fall reopened today when all the big oil companies reduced their prices from 20¼ cents to 17 cents per gallon. The cut was made to meet the price at which the city of Omaha has been selling gasoline for several months. The drop was effective only in Omaha.

City Commissioner Hopkins in charge of the municipal gasoline station today announced he will cut the price to 15 cents per gallon. The big companies are prepared to meet the competition it is said.

Following today's cut, President A. H. Richardson of Standard Oil of Nebraska issued the following statement: "Effective this morning our price on Red Crown gasoline at all service stations in Omaha is 17 cents a gallon. Our only reason for making this price at this time is to meet existing competition to protect our business and to protect our customers. We are in the oil business exclusively and have organized and operated our business to give all customers of gas and oil the very best service at the most conveniently located points at the lowest price consistent with so handling our business. This company contemplates this situation with much concern. But we expect to continue in so far as possible in the future as in the past to give our patrons the benefit of as low price as they can get from any legitimate competitor. We hope the present unusual conditions will be only temporary."

Gas Convention Discusses Problems

Three Vital Phases, Decline of Supply, Fixing of Fair Rates and Proper Utilization of Dwindling Natural Resources

By Andrew M. Rowley

CLEVELAND, Ohio, May 21.—Appealing to their patriotism to close ranks and present a firm front against the insidious foe of doubt and suspicion, which is so foreign to the character of the American people, but which is still so prevalent in our midst today, A. C. Bedford, chairman of the board of the Standard Oil Co. of New Jersey, tonight electrified the more than 1,200 members of the Natural Gas Association of America and the Natural Gas Supply Men, Inc., who attended the annual banquet of the organizations in the Hollenden Hotel here. Mr. Bedford was the principal speaker at the banquet which marked the climax to the largest and best convention held by the Natural Gas Association of America and the Natural Gas Supply Men, which organizations have been meeting here since last Monday. The convention and exhibit installed by the supply men will close officially tomorrow.

"Whatever dislocation exists in American commerce today is largely psychological," declared Mr. Bedford, "and is because our minds are diverted from the real achievements of life by the trivial squabbles of the moment. The Nation is divided by appeals to prejudice, to class consciousness and sectional differences are being emphasized by the clamor of partisan propogandists. There is not today a united America as there was in the war. Healthy differences of opinion we always will have, and some discontent, but today far too great a proportion of the thoughts of the people of this country is centered on bickerings and charges and counter charges, which can serve no purpose and which are producing a very visible effect upon our national day's work."

Mr. Bedford pointed out how the oil industry, during the war had marshalled its every resource in aiding the Governments of the United States and its allies to the end that it has been said with much justification "the war was won on an ocean of oil." He pointed out that at the close of the war the petroleum industry was shipping $25,000,000 worth of petroleum a month abroad, or practically $1,000,000 worth every working day. Yet, when the armistice was signed, every unnecessary shipment was stopped at once, at one blow, and the spirit of the petroleum industry was once again manifested in that as against the $25,000,000 current demands actually in force at the signing of the armistice, the entire situation after the armistice was cleaned up at a total expense to the allies of $500,000. He said nobody was asked to pay for cancelled contracts; the oil business assumed the entire burden.

Aided Mid-Continent After War.

Oil operators, refiners and marketers in the Mid-Continent area of the United States should be especially interested in a statement made to the writer by Mr. Bedford in regard to the action of the Standard Oil Co. of New Jersey immediately after the signing of the armistice. It is of peculiar significance when considered in connection with the action of this same company last week in purchasing 10,000,000 gallons of gasoline in the Mid-Continent. Mr. Bedford said that at the close of the war, he was approached by oil men from the Mid-Continent, who pointed out that operations, production and refining, in that area had been stimulated greatly during the war to provide the necessary supplies of petroleum and the sudden stopping of the demand would work a great hardship on the industry in that territory. Mr. Bedford said he was told the situation would be relieved were the Standard of New Jersey to buy 400,000 bbls. of gasoline.

"Even though the market for gasoline was falling," Mr. Bedford said, "we agreed to buy this amount of gasoline and before we were through we had bought more than 1,000,000 bbls. of gasoline to relieve the situation. We carried this burden ourselves. The petroleum industry did not ask the Government for help. We did not ask payment on cancelled contracts. We assumed the burden ourselves. While large sums were paid to other industries after the war in settlement of contracts the oil business asked for nothing."

Newton D. Baker, former Secretary of War, and Adam Bede, of Chicago, were the other speakers at the banquet.

With approximately 1,500 officials and executives of the leading natural gas companies and natural equipment and supply concerns from every section registered, this convention of the Natural Gas Association, its nineteenth, broke all records for attendance. The exhibits of the supply men covered every phase of the operating end.

Three Gas Problems

The keynote of the convention of the Natural Gas Association was sounded by H. A. Wallace of Charleston, W. Va., president of the association, when he formally opened deliberations of his organization Tuesday morning. Three phases of the natural gas industry vitally affecting every natural gas company and the millions of consumers of this fuel were declared by Mr. Wallace to be the fact that the available supply of natural gas is being depleted rapidly and the time is not far distant when all will have to turn to the use of manufactured gas; that the service or customer charge is the only fair method of fixing rates; and third, that a most important factor in the situation, from the standpoint of the companies as well as their patrons, is the proper utilization of natural gas, so the greatest efficiency and value may be obtained from the smallest amount of natural gas.

The importance of the proper utilization of natural gas was emphasized in a most interesting manner Tuesday afternoon by the presentation of the one-act play, "All's Well That Ends Well," by employes of the Equitable Gas Co. of Pittsburgh, Pa. This play has been presented more than 100 times already, it is said, and has done a vast amount of good in bringing forcibly to the attention of consumers of natural gas the necessity of having efficient appliances in their homes and having these appliances adjusted properly if they expect to obtain satisfactory service from the natural gas metered to them. Those taking parts in the play are A. A. Osterman, Miss Mildred Shaw, W. H. Ferguson and Miss Florence Barry.

Discussion Animated

It was demonstrated shortly after the formal opening of the convention Tuesday morning why so many gas companies insist that as many as possible of their heads of departments and officials attend these annual conventions.

Frank R. Pringle, of the Lima Natural Gas Co., of Lima, Ohio, had barely sat down after reading his paper, entitled "From Natural Gas to Manufactured Gas," when a number of gas men in various parts of the hall were on their feet with questions or with views differing from some expressed by Mr. Pringle. The meeting became a regular forum, officials of companies from widely separated sections of the country giving their views and the results of their experiences relating to different questions.

The discussion following the presentation of Mr. Pringle's paper showed there was a strong opinion among these present against the "step-up" method of establishing natural gas rates. It was also stated by several speakers that increasing the price of natural gas had resulted in diminishing the sales of the product.

Gasoline Tests

Probably one of the most important acts of the convention was taken Tuesday afternoon when the convention went on record approving the report of the technical and research committee and the individual reports of the chairmen of subcommittees of this main committee. The report approved provided tentative standards for the testing of natural gas for its gasoline content, each of the three methods of obtaining gasoline from natural gas—compression, mineral absorption, and charcoal absorption—having its own tentative standard suggested by the committee. The gas companies, through their representatives, also agreed to notify the association of the results obtained from tests made with the standard test suggested by the association.

E. D. Leland, of the Equitable Gas Co., Pittsburgh, Pa., in his report on "gas utilization," declared rates for natural gas must go up until they are near manufactured gas rates which now average about $1.15 per thousand feet, although manufactured gas has only half the heat units of a similar quantity of natural gas. He asserted natural gas consumers need the aid of the gas companies in obtaining a maximum of service and efficiency from their natural gas appliances. His committee had found natural gas companies were becoming fully cognizant of this fact and the following were some of the means now being employed to give better service to patrons and to permit natural gas users to get a more satisfactory service from the use of less gas:

Mr. Leland declared the country is drifting rapidly towards a manufactured gas era.

Supply Men in Session

Monday was given over to the Natural Gas Supply Men, Inc. That organization of live wires made everyone feel he had done a good thing by attending the convention when it took charge of everything the first day and when the weary travelers began to feel the demands of the inner man, fed him and sped him on his way rejoicing.

At the annual meeting of the organization, the work of the present board of directors was so appreciated, it was decided to keep it intact and the five members of the board, whose terms expired, were reelected for a term of three years. Their terms expire in 1927. They are: Fred A. Miller, president of the organization, of the S. R. Dresser Manufacturing Co.; T. C. Clifford, Pittsburgh Meter Co.; William McKee, Chaplin-Fulton Manufacturing Co.; E. P. Corey, Youngstown Sheet and Tube Co.; and Larmour Adams, Metric Metal Works.

The directors of the organization will meet at the first opportunity, following this convention, and elect officers for the ensuing year. Mr. Miller is president of the organization now and Mr. Way, the secretary-treasurer of the Natural Gas Association of America, is secretary.

Prior to the smoker and entertainment given Monday night in the Hollenden Hotel by the supply men, the directors of the Natural Gas Association held a meeting and approved the report of the technical and research committee. This committee has been at work for two years, studying the standardization of methods of testing natural gas for gasoline. This report is regarded as one of the most important documents prepared by the association. The United States Bureau of Standards, the Association of Natural Gasoline Manufacturers and others, cooperated with the Natural Gas Association members in the investigation and study resulting in the report.

Exhibit the Best Ever

Directors of the Natural Gas Supply Men, Inc., concentrated on the exhibit this year to make it the best ever and their success was attested by the fact that hundreds swarmed the auditorium during the first day of the convention, seeking to gain admittance.

More than 150,000 personal letters had been sent out describing the exhibit to consumers of natural gas. It seemed that each of this number accepted the letter as a personal invitation. Suffice to say the policy of education adopted bore fruitful results the first day and gave Cleveland gas consumers an entirely different idea regarding the production, transportation and distribution of natural gas. They obtained an insight into the magnitude of the industry they could never have procured otherwise. When they viewed a 50,000-pound compressor gas engine and realized such machinery was necessary to bring gas to their homes, the simple matter of turning a stop cock and having Nature's wonderful fuel available, instantly took on another meaning.

Tulsa was on the job early at the convention in its efforts to have the gas men meet in the Magic City in 1925. William G. Long, speaker of the Tulsa boosters, had everyone tagged "I'm for Tulsa," and in an address before the supply men Monday, stated the Mayor and every civic and commercial organization of Tulsa extended an official welcome to the gas men to hold their 1925 convention in the metropolis of Oklahoma. He was given a vote of thanks and told the claims of Tulsa would be given earnest consideration at the meeting of the directors when the next place of meeting would be decided. There is a strong sentiment prevalent to hold the meeting in Atlantic City, but efforts of boosters of that place met with failure previously and no claims are being made.

J. B. Corrin To Be President

John B. Corrin, vice president and general manager of the Reserve Gas Co. and vice president and assistant general manager of the Hope Natural Gas Co., will be elected president of the Natural Gas Association of America tomorrow, according to authoritative information obtained by the writer here today. Mr. Corrin long has been one of the most active members of the association and is one of the most popular. He has been first vice president of the association. His home is in Pittsburgh, Pa. The election of officers and directors of the Natural Gas Association of America will be held tomorrow afternoon. There are six directors to be selected. It is rumored N. C. McGowen, of Shreveport, La., will be elected vice president of the association.

The Oil Business and the Oil Game

More Money Contributed by the Public in Six Years to Create 5 Per Cent of Oil Industry Than Basic Companies Raised in 50

By Charles E. Bowles

Just 108 old oil companies and 142 new companies produced fully 95 per cent of all the crude oil brought to the surface in the United States up to the close of 1919. In addition, these companies owned easily 95 per cent of all the pipe lines, tank cars and tank steamers and 95 per cent of the operating refineries. In contrast with this, since 1915, 5,109 oil companies have been organized with a capitalization of $8,343,792,000 and these concerns represent only 5 per cent of the crude production, pipe lines and refineries.

In six years these 5,109 companies raised $2,700,000,000 with which they created 5 per cent of the oil industry while the 250 companies, during 50 years, secured only $2,500,000,000 from the public with which they created 95 per cent of the oil industry.

Such is the difference between the "oil business" and the "oil game." It is a matter of vital importance that the public everywhere know and realize these facts and judge the oil industry not by fly-by-night concerns formed principally as stock selling propositions, but by the real basic companies which really serve the public through producing, transporting, refining and distributing oil.

One of the outstanding facts of American life is the inherent fairness and sanity of the American people, as a whole. Fundamentally, we are fair-minded, and while we may follow "false leaders" for a time, the great American public sooner or later, "gets its feet on the ground."

As the Senate investigation, with its almost endless ramifications, is rapidly spending its force, the great American public is waking up to the fact that the petroleum industry as a whole has not been on trial at all—that the policy pursued by two large oil companies in securing leases on public lands stands questioned—and that the political muckraking of some of the Senatorial investigators bears few earmarks of a sincere desire to serve the American petroleum industry—and through that industry the millions of American citizens who use petroleum products.

The tragedy of the last six months, during which oil has been a "headliner" on the front page of thousands of newspapers throughout the United States, lies in the fact that it is going to be harder for the petroleum industry to get the huge sums of new capital that it must have if it is to continue to expand and serve the American people and the American industries in the future, as it has in the past.

Like the farmer, let's try to "separate the wheat from the chaff"—and know which is wheat, and which is chaff—which is the "Oil Business," and which is the "Oil Game."

In order to see clearly the growth of those companies that constitute practically all of the real petroleum industry and at the same time to see clearly the great gulf that separates the "Oil Business" from the "Oil Game" let's use the basic figures used in 1920 by one of the leading oil men of America in emphasizing the petroleum industry's need of vast quantities of new capital in order to insure the continued growth of the petroleum industry along with our other great American industries nearly all of which are vitally dependent on oil.

It has been possible to obtain practically complete financial data on 250 of the leading oil companies of the United States. These 250 companies have been divided into two groups: those that were organized before 1912—and those organized between 1912 and the end of 1919. There are 108 companies in the first group and 142 in the second group. The first group includes the 35 companies usually referred to as "The Old Standard Oil Company," together with 73 of the largest "Independents." As the old Standard Oil Trust was dissolved by order of the United States Supreme Court in May, 1911, it is obvious that December 31, 1911, is a basic date from which to measure the financing and development of oil companies in the United States.

TABLE 1—108 Companies Organized Before 1912

Capital stock outstanding—December 31, 1911....		$682,632,909
Stock dividends $184,915,249		
Stock sold 473,713,402		658,628,651
Capital stock outstanding December 31, 1919...		$1,341,261,560
"New Money" added, 1912-19; sale of stock		$473,713,402
Sale of bonds.....		63,888,397
		$537,601,799
Cash dividends paid, 1912-1919		$788,270,143

TABLE 2—142 Companies Organized 1912-1919

Capital stock outstanding—December 31, 1911....		None
Stock dividends .....$ 19,161,623		
Stock sold 1,141,516,731		$1,160,678,354
Capital stock outstanding Dec. 31, 1919...		$1,160,678,354
"New Money" added, 1912-1919, sale of stock		$1,141,516,731
Sale of bonds		105,722,821
		$1,247,239,552
Cash dividends paid, 1912-1919		$117,992,129

TABLE 3—Consolidated Sheet for 250 Companies

Jan. 1	Capital Stock Outstanding	Capital Stock Added	Cash-Dividends Paid
1912 ....$	682,632,909	$ 81,108,878	$ 64,429,397
1913	763,741,787	121,310,623	93,131,941
1914	885,052,410	114,869,233	74,947,191
1915	999,921,643	57,433,270	78,443,302
1916	1,057,354,913	272,313,380	120,568,950
1917	1,329,668,293	332,639,233	149,768,818
1918	1,662,307,526	131,827,867	159,337,461
1919	1,794,135,393	707,804,521	165,635,212
	$2,501,939,914	$1,819,307,005	$906,262,272

TABLE 4—New Companies, Not Included in the 250

Year	Companies Organized	Authorized Capitalization
1915	196	$ 80,533,000
1916	240	419,746,000
1917	512	840,219,000
1918	820	430,480,000
1919 1,629		3,786,000,000
1920 1,712		2,786,814,000
	5,109	$8,343,792,000

By referring to Table 1 you will note that on December 31, 1911, these 108 companies had capital stock outstanding of $682,632,909. In the eight years between that date and December 31, 1919, these companies declared stock dividends of $184,915,249 and issued stock for cash or properties amounting to $473,713,402, or a total of $658,628,651. Adding this amount to the stock outstanding December 31, 1911, makes the capital stock outstanding December 31, 1919, amount to $1,341,261,560.

During these same eight years bonds were sold to the amount of $63,888,397 which, added to the stock issued for cash or properties ($473,713,402), brings the "new money" added during eight years to $537,601,799.

During the same period cash dividends were paid amounting to $788,270,143. In other words, in eight years, these 108 companies got in $537,601,799 from the sale of stocks and bonds—they declared stock dividends of $184,915,249—and they paid back in cash dividends a total of $788,270,143.

Referring to Table 2, you will see that on December 31, 1911, none of the 142 companies was in existence, therefore there was no capital stock outstanding. In the eight years from December 31, 1911, to December 31, 1919, these 142 companies declared stock dividends of $19,161,623, and issued stock for cash and the purchase of properties amounting to $1,141,516,731. Therefore on December 31, 1919, the outstanding capital stock of these 142 companies was $1,160,678,354.

During the same eight years these companies sold bonds amounting to $105,722,821 which, added to the sale of stock ($1,141,516,731), gives $1,247,239,552 of "new money" furnished to these 142 companies.

During the same period these companies paid out in cash dividends $117,992,129.

In order to see clearly the strategy of the position of the 108 companies in Group 1 in the industrial fabric of this country, as compared with the 142 companies in Group 2, turn to Tables 1 and 2 and note the amazing differences in rates of capital stock growth—of new money added—and of cash dividends paid. In this connection remember that in Group 1 are the 35 Standard Oil Companies and 73 "Independents," while all of the 142 companies in Group 2 are "Independents."

Comparing the two groups we find that from the beginning of the industry to the end of the year 1919 the 108 companies built up their capital stock outstanding until it amounted to $1,341,261,560, while the 142 Independents issued $1,160,678,354 from December 31, 1911, to December 31, 1919—a period of only eight years.

During the same eight years the 108 old companies added $537,601,799 of "new money" while the 142 new companies added $1,247,239,552, or more than twice as much as the old established companies.

During the same period the 108 old companies paid $788,270,143 in cash dividends, while the 142 new companies paid $117,992,129, or less than one-sixth as much as the old companies.

It is needless to call attention to the fact that these 108 old companies and 142 new companies produced probably 95 per cent of all of the crude oil produced in the United States up to the close of the year 1919—that they owned easily 95 per cent of the pipe lines, tank cars and tank steamers of the country—that they owned 95 per cent of the operating refineries of the United States—and that they owned probably 95 per cent of the marketing facilities of the entire country. In other words, it is very probably true that these 250 companies easily represented 95 per cent of the entire petroleum industry at the end of the year 1919.

Now turn to Table 3 which is a "consolidated sheet" showing the capital stock outstanding, the new capital stock added, and the cash dividends paid each year from 1912 to 1919, inclusive. The total capital stock of the 108 companies in existence December 31, 1911, amounted to $682,632,909. During the eight years from that date to December 31, 1919, the 142 new companies were organized and their capitalization and cash dividends are included with the 108 old companies and shown in Table 3.

During 1912 the capital stock added amounted to $81,108,878, which brought the outstanding capital stock to $763,741,787 at the end of the year. Cash dividends were paid amounting to $64,429,397 or a little over 8 per cent for the year.

In checking the constantly increasing amounts of "new money" needed by these 250 companies during these eight years, you will note that owing to the World War the new capital added dropped from

(Continued on Page 118)

Courage, Gelatin and an Asbestos Suit

This Combination Suffices to Extinguish a Big Gas and Oil Fire in Oklahoma in Quick Time. Airplane Also Figures

By C. D. Lockwood

The advantages of explosives over steam in extinguishing the flames in a burning gas well were sensationally demonstrated by M. M. Kinley of the Standard Torpedo Co. last week when he snuffed out the blaze on the H. F. Wilcox Oil & Gas Co.'s 32,000,000-foot gasser in the Cromwell Field, northern Seminole County, Oklahoma, after it had been burning two days.

The significant feature of the feat, from the human standpoint was that the fire was out less than 18 hours after Mr. Kinley, who was in Tulsa, about 75 miles away, received the order from the company officials to try his hand at the job. From the standpoint of material, the significant feature was that although a shot of approximately 14 quarts of gelatin was exploded less than a foot from the orifice through which the flames were pouring, and the force of the gelatin explosion blew out window lights in a bunkhouse on an adjacent hill, neither the pipe nor any fitting on the well was injured in any way.

This method of fighting a gas fire is comparatively new in Oklahoma although it is the only one employed in California, and has been used to some extent in Texas. The Magnolia Petroleum Co.'s gasser in the Graham Field which attracted considerable attention not long ago was put out with explosives by this method which was brought to Oklahoma from California by Mr. Kinley, who was formerly associated in the Ford Alexander Corp. with the man who holds the record of not only accomplishing the first successful job of conquering a gas fire with explosives but also has the distinction of putting out one of the largest fires on record, having snuffed out the blaze in a 100,000,000-foot well in this manner.

The blaze in the Wilcox Oil & Gas Co.'s No. 2 Bruner, located in the southwest corner of the southeast quarter of the southwest quarter of Section 15-10-8, broke out Monday afternoon, May 12, when the sand, which was topped at 3,408 feet, had been drilled only three feet in. The spark that set it off probably resulted from a flint rock striking a pulley. It was Tuesday noon when Kinley received orders to proceed to the fire with the understanding that he would be on the ground by 4 o'clock that afternoon, although the distance from Tulsa to the Cromwell Field, as the crow flies, is more than 75 miles. Chartering an airplane, he loaded his asbestos suit, gelatin and other equipment on it, and in spite of the overload and a rainstorm which retarded the plane most of the way, the trip was made in an hour and a quarter.

When Kinley reached the fire, he found several complications. The gate on the well was about three-quarters closed, forcing the flames down into the pit, and making it impossible to get near the well. The additional fact that the pit was full of water from a pipe which was pouring a steady stream on the well fittings in an effort to keep them cool, added to the difficulties. The well was also spraying about 100 bbls. of oil.

The first task was to open the gate so the flames could shoot straight upward and concentrate all of the fire through the one aperture. This was accomplished by means of a specially shaped pipe. With the gate open, Kinley carried four quarts of gelatin up to a point where he could swing it in next to the pipe opening with a contrivance which had been constructed for the purpose. The shot was fired by electricity. The amount of pressure in the well had been underestimated, however, and the resulting explosion proved to be too light, having no effect.

M. M. Kinley, who flew from Tulsa to the Cromwell Field in an overloaded airplane carrying 18 quarts of gelatin with him to blow out the burning gasser. The feat was accomplished after the well had burned only two days.

It was then decided to "shoot the works" and a line was rigged up between trees on each side of the burned area, and a pulley arrangement made so that a heavier shot could be pulled to the proper position. Wrapping the container with all of the remaining gelatin he had brought with him in a piece of asbestos, Kinley carefully wired it, and slid it into place, setting it off just as it reached the opening in the pipe. This time, the flames were snuffed out as quickly as a candle flame in a puff of wind, and the pipe remained uninjured.

The theory upon which the explosive works without injuring the well fittings is that the pressure seeks the line of least resistance, which is upward and away from the pipe in the open air. The first shot of four quarts did a very freakish thing in picking up a fitting from the bottom of the pit, setting it out on the ground and breaking it.

The advantages of the explosive method in fighting a fire as compared to the use of steam are strikingly illustrated in the time required to complete the work on the two recent fires in the Cromwell Field. The first one was the Shaffer Oil & Refining Co.'s well in Section 10-10-8, which burned for 10 days before it was finally overcome by steam from a battery of 12 boilers which had been assembled after great effort.

Anyone who has been near a burning gasser can appreciate the accompanying picture showing Kinley within a few feet of the fire. This picture was taken before the gate was opened, and shows the conditions under which he had to look over the situation. He approached much closer to the fire than the picture shows him, shortly after it was snapped. "All kinds of nerve in an asbestos suit," was the way spectators characterized him. The men on the lease gave him valuable assistance in the work, but were a little diffident when it came to handling the explosive.

You wouldn't blame a man for protecting his face in a situation like this. M. M. Kinley is the figure at the right of the burning gasser, and, although he is protected by an asbestos suit, we don't envy him the job. As a matter of fact, he got much closer to the well shortly after the picture was snapped.

Shortly after a flint rock struck a pulley, setting off the 32,000,000-foot gasser, the rig and equipment were a pile of debris. On the right of the fire is the pipe that saved the well, pouring a steady stream of water on the control head. There was little smoke, the white column shooting up above the tree-tops being a roaring mass of flame.

STEPHENS COUNTY GASOLINE

BRECKENRIDGE, Tex., May 17.—Total output of natural gasoline from the 30 plants in Stephens County during March was 5,700,000 gallons, showing a growth in output of 800,000 gallons since January, 1924, when 4,900,000 gallons were manufactured. During the first 90 days of 1924, Stephens County gasoline plants shipped a total of 1,840 cars of natural gasoline, or more than a trainload daily. The output is growing daily and is expected to exceed the 6,000,000-gallon per month mark with the completion of plants now being constructed.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

CHICAGO DIST. (Based on Group 3)—	May 20		May 13		May 6	
50-52 450 end point (Naphtha)	.09½	.09¾	.09¾	.10	.09¾	.10
56-58 450 end point	.09½	.09¾	.09½	.10	.09¾	.10
58-60 437 end point (New Navy)	.09¾	.10	.09¾	.10¼	.10	.10½
60-62 400 end point	.10¾	.11	.11	.11	.11¼	.11½
64-66 375 end point	.11½	.12	.11¾	.12	.12¼	.12½
68-70 360 end point	.12	.12½	.12¾	.13	.13	.13¼
OKLAHOMA (Group 3)—						
50-52 450 end point (Naphtha)	.09½	.09¾	.09½	.09¾	.09¾	.10
56-58 450 end point	.09½	.09¾	.09¼	.09½	.09¾	.10
58-60 437 end point (New Navy)	.09¾	.10	.09½	.09¾	.10	.10¼
60-62 400 end point	.10½	.10¾	.10¾	.11¼	.11	.11¼
64-66 375 end point	.11	.11½	.11¼	.11¾	.11¾	.12¼
68-70 350-365 end point	.12	.12½	.12¼	.12½	.12¾	.13
KANSAS—						
58-60 437 end point (New Navy)	.10	.10½	.09¾	.10	.10	.10½
NORTH TEXAS—						
48-52 450 end point (Naphtha)	.09	.09¼	.09	.09½	.09¼	.09½
50-52 440 end point (Naphtha)	.09¼	.09½	.09¼	.09½	.09½	.03¾
56-58 450 end point	.09¼	.09½	.09¼	.09½	.09½	.09¾
58-60 437 end point (New Navy)	.10	.10¼	.09¼	.09½	.09¾	.10
60-62 400 end point	.10¾	.11	.10¾	.11	.11	.11¼
64-66 390 end point	.11	.11¼	.11	.11¼	.11½	.11¾
64-66 375 end point	.11	.11½	.11¼	.11½	.11¾	.12
68-70 360 end point	.12	.12¼	.12	.12¼	.12½	.12¾
NORTH LOUISIANA—						
56-58 450 end point	.10	.10¼	.10	.10¼	.10¼	.10½
58-60 437 end point (New Navy)	.10¼	.10½	.10¼	.10½	.10½	.10¾
60-62 400 end point	.11	.11½	.11¼	.11¾	.11½	.12
64-66 375 end point	.11½	.12	.12	.12½	.12¼	.12¾
64-66 390 end point	.11¼	.11¾	.12	.12¼	.12¼	.12½
ARKANSAS—						
58-60 450 end point	.10	.10¼	.10	.10¼	.10¼	.10½
58-60 437 end point (New Navy)	.10¼	.10½	.10¼	.10½	.10½	.10¾
64-66 375 end point	.11¼	.11½	.11¾	.12	.12	.12¼
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (New Navy)	.12½	.13	.12½	.13	.13	.13½
PENNSYLVANIA—						
52 Naphtha	.12		.12		.12	
54 Naphtha	.12¼		.12¼		.12¼	
56 Gasoline	.12½		.12½		.12½	
58 Gasoline	.13¼		.13¼		.13¼	
60 Gasoline	.13¾		.13¾		.13¾	
62 Gasoline	.14		.14		.14¼	
64 Gasoline	.15		.15		.15	
66 Gasoline	.16		.16		.16¾	
68-70 Gasoline	.17½		.17½		.17½	
CALIFORNIA—						
54-56 437 end point (New Navy)	.11¾	.12½	.11½	.12	.11¾	.12¼

*Colorado points.

NATURAL GASOLINE

CHICAGO DIST. (Based on Group 3)—	May 20		May 13		May 6	
Grade A, 72-78, under 375 e.p., rec. 90%	.07¾	.08	.08¾	.09	.09	.09¼
Grade B, 76-82, 375 end point, rec. 85%	.07½	.07¾	.08¼	.08½	.08¼	.08½
Grade C, 80-88, 350 end point, rec. 78%	.07¼	.07½	.07¼	.07½	.07¾	.08
OKLAHOMA (Group 3)—						
Grade A, 72-78, under 375 e.p., rec. 90%	.07½	.08	.08¼	.08½	.08¾	.09
Grade B, 76-82 375 end point, rec. 85%	.07¼	.07½	.07¾	.08	.08	.08¼
Grade C, 80-88, 350 end point, rec. 78%	.07	.07¼	.07	.07¼	.07½	.08
Grade D, 88-92, 350 end point	.06¾	.07	.07	.07¼	.07½	.07¾
NORTH TEXAS—						
Grade A, 72-78, under 375 e.p., rec. 90%	.07¼	.07¾	.08	.08¼	.08½	.08¾
Grade B, 76-82, 375 end point, rec. 85%	.07	.07¼	.07¾	.08	.08	.08¼
Grade C, 80-88, 350 end point, rec. 78%	.07	.07¼	.07	.07¼	.07½	.07¾
NORTH LOUISIANA—						
Grade B, 72-78, under 375 e.p., rec. 90%	.07¼	.07½	.07¾	.08	.08	.08¼
Grade C, 76-82, 375 end point, rec. 85%	.07	.07½	.07	.07½	.07½	.07¾
CALIFORNIA—						
68-76 410 end point absorption	.10½	.13	.10½	.13	.10½	.11¼
78-84 350 end point compression	.10		.10		.10	

MOTOR NATURAL GASOLINE (BLEND)

CHICAGO DIST. (Based on Group 3)—	May 20		May 13		May 6	
58-62 437 end point	.09½	.09¾	.09½	.09¾	.09½	.09¾
60-62 450 end point	.09½	.09¾	.09½	.09¾	.09½	.09¾
64-66 450 end point	.09½	.09¾	.09½	.09¾	.09½	.09¾
OKLAHOMA (Group 3)—						
60-62 450 end point	.09	.09½	.08¾	.09¼	.09¼	.09½
64-66 437 end point	.09	.09½	.08¾	.09¼	.09¼	.09½
68-70 430-435 end point	.09	.09½	.08¾	.09¼	.09¼	.09½
NORTH TEXAS—						
58-62 440 end point	.09¼	.09½	.08¾	.09	.09¼	.09½
58-60 450 end point	.09¼	.09½	.08¾	.09	.09¼	.09½
PENNSYLVANIA—						
*60-62	.13		.13		.13¾	
*64-66	.13		.13		.13¾	
*66-68	.13		.13		.13¾	
*68-70	.13		.13		.13¾	

*At Sistersville, W. Va.

BURNING OIL

CHICAGO DIST. (Based on Group 3)—	May 20		May 13		May 6	
41-43 water white Kerosene	.04¾	.04⅝	.04¼	.04½	.04¼	.04½
42-44 water white Kerosene	.04¾	.05	.04½	.04¾	.04½	.04¾
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
42-44 water white Kerosene	.04¾	.05	.04¾	.05	.04¾	.05
KANSAS—						
41-43 water white Kerosene	.04¾	.05	.04¾	.05	.04¾	.05
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
42-44 water white Kerosene	.04½	.05	.04⅝	.04¾	.04⅝	.04¾
41-43 prime white Kerosene	.04	.04¼	.04	.04¼	.04	.04¼
ROCKY MOUNTAIN STATES—						
40-42 water white Kerosene	.07¾		.07¾		.07¾	
NORTH TEXAS—						
41-43 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
41-43 prime white Kerosene	.04	.04¼	.04	.04¼	.04	.04¼
40-42 prime white Kerosene	.04	.04¼	.04	.04¼	.04	.04¼
42-44 water white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
ARKANSAS—						
41-43 water white Kerosene	.04¾	.05	.04¾	.05¼	.04¾	.05¼
42-44 water white Kerosene	.05	.05¼	.05	.05½	.05	.05½
PENNSYLVANIA—						
43 Kerosene prime white	.06⅜		.06⅜		.06⅜	
45 Kerosene water white	.06½		.06½		.06⅝	
46 Kerosene water white	.07		.07¼		.07¼	
47 Kerosene water white	.07⅜		.07⅜		.07⅜	
36 Miners' Neutral	.06¾		.07¼		.07¼	
34 Neutral	.07		.07⅜		.07⅜	
34 Sundebloomed Neutral	.08½		.08⅜		.08⅜	
300 Mineral Seal	.07		.07¼		.07¼	
CALIFORNIA—						
40-42 water white (high burning test)	.09		.09		.09	
Engine distillate, 43-45 445 end point	.09½	.10	.09½	.10	.10	
Engine distillate, 42-44 480 end point	.08½	.09				

*Colorado points.

FUEL OILS

CHICAGO DIST. (Based on Group 3)—	May 20		May 13		May 6	
24-26 Fuel Oil (sellers' cars, Group 3)	.87½	.92½	.87½	.92½	.87½	.95
22-24 (El Dorado)	.87½	.90	.87½	.92½	.85	.90
18-20 (Smackover)	.85	.90	.85	.90	.85	.90
32-36 Gas Oil	.02¾	.03	.03	.03½	.03	.03½
38-40 Straw distillate	.03½	.03⅝	.03⅜	.03⅝	.03¼	.03½
KANSAS—						
24-26 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.10
32-36 Gas Oil	.03	.03½	.03	.03½	.03¼	.03¾
38-40 Distillate	.03¼	.03½	.03¼	.03½	.03¼	.03½
OKLAHOMA (Group 3)—						
24-26 Fuel Oil (buyers' cars)	.80	.85	.82½	.87½	.82½	.87½
24-26 Fuel Oil (sellers' cars)	.82½	.87½	.85	.90	.85	.90
28-30 Fuel Oil (sellers' cars)	1.05	1.10	1.05 e	1.10	1.05	1.10
32-36 Gas Oil	.02¾	.03	.02¾	.03	.02⅞	.03
38-40 Straw distillate	.03¼	.03½	.03¼	.03½	.03⅜	.03½
NORTH TEXAS—						
24-26 Fuel Oil	.80	.90	.85	.90	.85	.90
26-30 Fuel Oil	.95	1.00	.95	1.00	.95	1.00
32-36 Gas Oil	.02¾	.02⅞	.02¾	.02⅞	.02⅞	.03
36-38 Gas Oil	.02⅞	.03	.02⅞	.03	.03	.03¼
38-40 Straw distillate	.03¼	.03½	.03¼	.03½	.03¼	.03½
NORTH LOUISIANA—						
20-22 Fuel Oil	.90	.95	.90	.95	.90	.95
32-36 Gas Oil	.03	.03¼	.03	.03¼	.03¼	.03⅝
38-40 light Straw distillate	.03¼	.03½	.03¼	.03½	.03⅜	.03⅝
ARKANSAS—						
38-40 Distillate	.03½	.03⅝	.03½	.03⅝	.03½	.03⅝
32-36 Gas Oil	.03⅜	.03¼	.03¼	.03½	.03¼	.03½
22-26 Refinery Fuel Oil	.95	1.00	.95	1.00	.95	1.00
GULF COAST (South Texas)—						
Gas Oil	.05	.05½	.05	.05½	.05	.05½
Fuel Oil	1.80	1.95	1.85	2.00	1.90	2.05
PENNSYLVANIA—						
30-34 Fuel Oil	.05¼		.05⅝		.05⅝	
36-40 Fuel Oil	.05½		.05½		.05½	
CALIFORNIA—						
33-36 Distillate	.04	.04¼	.04	.04¼	.04	.04½
27-33 Distillate	.03½	.03¾	.03¼	.03¾	.03¼	.03½
15-20 Fuel Oil	1.40		1.40		1.40	

ROAD OILS

CHICAGO DIST. (Based on Group 3)—	May 20		May 13		May 6	
50-60 Asphaltic Content	1.25	1.35	1.25	1.35	1.25	1.35
60-70 Asphaltic Content	1.30	1.40	1.35	1.40	1.30	1.40
OKLAHOMA (Group 3)—						
40-50 Asphaltic Content	1.15	1.25	1.15	1.25	1.15	1.25
50-60 Asphaltic Content	1.25	1.35	1.25	1.35	1.25	1.35
60-70 Asphaltic Content	1.35	1.45	1.35	1.45	1.35	1.45

NEUTRAL OILS

OKLAHOMA (Group 3)— Pale Neutrals:	May 20		May 13		May 6	
70-80 vis., 2½ color, 20-25 cold test	.04	.04½	.04	.04½	.04	.04½
100 vis., 2 color, 20-25 cold test	.06	.06½	.06	.06½	.06	.06½
100 vis., 3 color, 20-25 cold test	.05½	.06	.05½	.06	.05½	.06
150 vis., 3 color, 20-25 cold test	.12½	.13	.12½	.13	.12½	.13
150 vis., 4 color, 20-25 cold test	.12	.12½	.12	.12½	.12	.12½
180 vis., 4 color, 23-28 cold test	.14¼	.14¾	.14¼	.14¾	.14¼	.14¾
180 vis., 3 color, 23-28 cold test	.15	.15½	.15	.15½	.15	.15½
200 vis., 3 color, 23-28 cold test	.16	.16½	.16	.16½	.16	.16½
200 vis., 4 color, 23-28 cold test	.15½	.15¾	.15½	.15¾	.15½	.15¾
200 vis., 3 color, 25-30 cold test	.16	.16½	.16	.16½	.16	.16½
220 vis., 4 color, 25-30 cold test	.16¼	.16¾	.16¼	.16¾	.16¼	.16¾
240 vis., 3 color, 25-30 cold test	.18	.18½	.18	.18½	.18	.18½
240 vis., 4 color, 25-30 cold test	.17¼	.17¾	.17¼	.17¾	.17¼	.17¾
280 vis., 3 color, 25-30 cold test	.20	.21	.20	.21	.20	.21
280 vis., 4 color, 25-30 cold test	.19	.20	.19	.20	.19	.20

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

Red Neutrals:						
180 vis., 5 color, 23-28 cold test	.13½	.14	.13½	.14	.13½	.14
180 vis., 6 color, 23-28 cold test	.12¾	.13¼	.12¾	.13¼	.12¾	.13¼
200 vis., 5 color, 23-28 cold test	.14½	.15	.14½	.15	.14½	.15
200 vis., 6 color, 23-28 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
220 vis., 5 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
220 vis., 6 color, 25-30 cold test	.14¾	.15¼	.14¾	.15¼	.14¾	.15¼
240 vis., 5 color, 25-30 cold test	.16	.16½	.16	.16½	.16	.16½
240 vis., 6 color, 25-30 cold test	.15¾	.16	.15¾	.16	.15¾	.16
280 vis., 5 color, 25-30 cold test	.18	.18½	.18	.18½	.18	.18½
180-190 vis., R. S. green, 40-50 cold test	.10	.10½	.10½	.11	.10½	.11
190-200 dark green, 40-50 cold test	.08½	.09	.09	.09½	.09	.09½
170-190 dark green, 40-50 cold test	.07¾	.08¼	.08¼	.08¾	.08¼	.08¾
600 E filtered	.20	.21	.20	.21	.20	.21
590-600 Bright Stock	.28	.29	.28	.29	.28	.29
600-610 Bright Stock	.32	.34	.32	.34	.32	.34
Waxes:						
124-126 White Crude Scale Wax	.04½	.04¾	.04¾	.05	.05	.05¼
PENNSYLVANIA—						
150, 3 color	.24½		.25		.26	
180, 3 color	.26½		.27		.27½	
200, 3 color	.27½		.28		.29	
220, 3 color	.29½		.30		.31	
600, steam refined	.19½		.21		.22	
635, steam refined	.23		.24		.24¾	
650, steam refined	.25		.26		.26¼	
600, Pennsylvania flash	.27		.28		.28	
630, Pennsylvania flash	.30		.30		.30	
*350, E filtered	.22½		.22½		.22¾	
*800, E filtered	.25½		.24½		.24½	
600, E filtered	.23¼		.24		.24	
600, D filtered	.29½		.30		.30	
550, E filtered	.20		.20		.20	
550, D filtered	.24		.24		.24	
Pennsylvania Bright Stock	.36½		.38		.38	
†122-124 White Crude Scale Wax	.05⅝		.06		.06	
†122-124 White Crude Scale Wax	.05¼		.05⅝		.05⅝	

*At Warren, Penn. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.08	.09	.08	.09	.08	.09
No. 2 color, 100 vis., pale oil	.10½	.12	.10½	.12	.10½	.12
No. 2 color, 150 vis., pale oil	.12½	.14	.12½	.14	.13	.14
No. 3 color, 200 vis., pale oil	.15	.16	.15	.16½	.15	.16½
No. 3 color, 300 vis., pale oil	.17	.18	.17½	.19	.17½	.19
No. 3½ color, 500 vis., pale oil	.19	.20	.20½	.22	.20½	.22
No. 3½ color, 750 vis., pale oil	.25½	.26½	.25½	.27	.25½	.27
No. 4½ color, 1200 vis., pale oil	.27	.28½				
No. 4½ color, 2000 vis., pale oil	.32	.33				
No. 1½ color, 150 vis., pale oil	.22	.23½	.22	.23½	.22	.23½
No. 2 color, 200 vis., pale, filtered	.24	.25	.24	.25½	.24	.25½
No. 3 color, 300 vis., pale, filtered	.28	.29	.28	.30	.28	.30
No. 3½ color, 500 vis., pale, filtered	.32	.33	.32	.33½	.32	.33½
No. 3½ color, 750 vis., filtered	.40	.41	.40	.41½	.40	.41½
No. 5 to 6 color, 200 vis., red oil	.13½	.15	.13½	.15	.13½	.15
No. 5 to 6 color, 300 vis., red oil	.15½	.16½	.15	.16½	.15	.16½
No. 5 to 6 color, 500 vis., red oil	.17½	.18½	.18	.19½	.18	.19½
No. 5 to 6 color, 750 vis., red oil	.23	.24	.24	.26	.24	.26
CALIFORNIA—						
200 vis., 2½-3 color	.15	.17	.15	.17	.15	.17
300 vis., 3 -4 color	.16	.19	.16	.19	.16	.19
350 vis., 3½-4 color	.17½	.20	.17½	.20	.17½	.20
400 vis., 4 -4½ color	.19	.20	.19	.20	.19	.20
Red Neutrals:						
200 vis., 4½-5 color	.14	.14½	.14	.14½	.14	.14½
300 vis., 5 -6 color	.14	.17½	.14	.17½	.17	.17½
400 vis., 5 -6 color	.16	.18	.16	.18	.16	.18
500 vis., 6 -6½ color	.17	.18	.17	.18	.17	.18
600 vis., 6 -6½ color	.18	.21	.18	.21	.18	.21
700 vis., 6½ plus	.20	.21	.20	.21	.20	.21

NEW YORK DOMESTIC MARKET

	May 20	May 13	May 6
Motor Gasoline:			
Spot Gasoline, Bayonne	.15	.15	.15
V. M. P. Naphtha, in steel barrels	.19	.19	.19
Lubricating Oil (Industrial) at refinery, Bayonne, N. J.:			
Cylinder, extra light filtered, in barrels	.45	.45	.45
Cylinder, light filtered, in barrels	.39½	.39½	.39½
Cylinder, Bright Stock	.49½	.49½	.49½
Cylinder, steam refined (600)	.31½	.31½	.31½
Black, in bulk	.17½	.17½	.17½
Bloomless, white, 30-31 gravity, 170 vis.	.50	.50	.50
Bloomless, 885 specific gravity	.15½	.15½	.15½
Red Paraffin:			
170 viscosity	.22	.22	.22
212 viscosity	.24	.24	.24
265 viscosity	.24½	.24½	.24½
295 viscosity	.29	.29	.29
Paraffin, 903 specific gravity	.30	.30	.30
*Fuel Oil:			
Bunker Oil, 14 plus, delivered in barges, bbl.	1.75	1.75	1.75
Diesel Oil, at refinery, gallon	.05½	.05½	.05½
Furnace Oil, tank wagon, gallon	.10	.10	.10
Gas Oil, delivered in New York	.06½	.06½	.06½
Wax, fully refined:			
120-122 a.m.p.	.06¼	.06¼	.06¼
125-127 a.m.p.	.06¾	.06¾	.06¾
130-132 a.m.p.	.07¼	.07¼	.07¼
135-137 a.m.p.	.08⅛	.08⅛	.08⅛

*Lighterage, 6.5c a barrel extra.

NEW YORK EXPORT PRICES

	May 20	May 13	May 6
Motor Gasoline, in cases, gallon	.28.15	.28.15	.28.15
Motor Gasoline, U. S. Navy, spec. gallon	.14	.14	.14
Naphtha, 60° F., 59-61 spec. grav.	.15.25	.15.25	.15.25
Naphtha, 60° F., 63-66 spec. grav.	.17	.17	.17
Naphtha, 60° F., 66-68 spec. grav.	.18.50	.18.50	.18.50
Kerosene:			
Standard white, in bulk, gallon	.06½	.06½	.06½
Standard white, in barrels, gallon	.13½	.13½	.13½
Standard white, in cases, gallon	.16.90	.16.90	.16.90
Water white, in cases, gallon	.07½	.07½	.07½
Water white, in barrels, gallon	.14½	.14½	.14½
Water white, in cases, gallon	.17.90	.17.90	.17.90

LOS ANGELES EXPORT PRICES

	May 20		May 13		May 6	
Kerosene:						
Water white export	.05	.05½	.04½	.05	.04½	.05

CRUDE OIL PRICES

May 19.—Humble Oil & Refining Co. posted prices effective before reduction of May 10, when it announced it would follow Magnolia Petroleum Co.'s reductions. Humble prices are retroactive as of May 10. Atlantic Oil Producing Co. reduced price of Smackover crude below 24 degrees gravity 15 cents.

Arkansas and North Louisiana

Caddo, 38° and above	$1.85
35° to 37.9°	1.75
32° to 34.9°	1.65
Below 32°	.150
Homer, 35° and above	1.85
33° to 34.9°	1.75
31° to 32.9°	1.65
Below 31°	1.50
Haynesville, 33° and above	1.75
Below 33°	1.65
El Dorado, 33° and above	1.85
Below 33°	1.75
Bull Bayou, 38° and above	1.80
35° to 37.9°	1.65
32° to 34.9°	1.50
De Soto	1.85
Crichton	1.65
Bellevue	1.75
†Smackover, 26° and above	1.35
25° to 25.9°	1.20
24° to 24.9°	1.10
Below 24°	1.00

†The Texas Co. and Atlantic Oil Producing Co. prices, same except—

Smackover, below 24°	.85
*Stephens, Ark.:	
Below 23°	1.00
23° to 25.9°	1.20
26° to 27.9°	1.35
28° to 31°	1.40

*Posted by Atlantic Oil Producing Co.

Wyoming and Montana

Rock Creek (Wyo.)	$1.70
Salt Creek	1.60
Big Muddy	1.50
Mule Creek	1.10
Grass Creek (light)	1.95
Elk Basin	1.95
Lance Creek	1.90
Osage	1.90
Cat Creek (Mont.)	1.95
Sunburst, (Mont.)	1.05
Lost Soldier	1.28
Greybull and Torchlight	1.90
Hamilton Dome	1.55

Lander based on contracts covering entire production of fields.

Oklahoma, Kansas, North and Central Texas

Prairie Oil Gas Co. and other major purchasing companies, except as noted below:

Below 30°	$1.25
30° to 32.9°	1.45
33° to 35.9°	1.75
36° to 38.9°	2.00
39° and above	2.25
Magnolia Petroleum Co.:	
Below 28°	1.00
28° to 30.9°	1.15
31° to 32.9°	1.30
33° to 35.9°	1.60
36° to 38.9°	1.75
39° and above	2.00
Corsicana Light	1.75
Corsicana Heavy	1.00
Mexia	1.75
Currie	2.25
Powell	1.75
Thrall	1.00
Humble Oil & Refining Co.:	
Corsicana Light	2.00
Mexia	2.00
Powell	2.00

Gulf Coast

Grade "A"	$2.00
Grade "B"	1.70
Luling	1.25
Laredo	.80
Milam County	1.35
Rockdale-Minerva (Milam County)	1.60
Above 39° gravity	2.25
Calliham (Live Oak-McMullen Co.)	1.00

California

14° to 14.9°	$1.00
20° to 20.9°	1.01
21° to 21.9°	1.02
22° to 22.9°	1.03
23° to 23.9°	1.05
24° to 24.9°	1.07
25° to 25.9°	1.10
26° to 26.9	1.13
27° to 27.9°	1.16
28° to 28.9°	1.19
29° to 29.9°	1.22
30° to 30.9°	1.25
31° to 31.9°	1.28
32° to 32.9°	1.31
33° to 33.9°	1.34
34° to 34.9°	1.37
35° gravity and above	1.40

Eastern States

Penna Grade Oil in New York Transit Lines	$4.25
Bradford District Oil in National Transit Lines	4.25
Penna Grade Oil in National Transit Lines	3.75
Penna Grade Oil in Southwest Pa. Pipe Line Lines	3.75
Penna Grade Oil in Eureka Pipe Line Lines	3.75
Penna Grade Oil in Buckeye Pipe Line Lines	3.75
Cabell Grade Oil in Eureka Pipe Line Lines	1.95
Corning Grade Oil in Buckeye Pipe Line Lines	2.15
Somerset Medium Oil in Cumberland Pipe Line Lines	2.05
Somerset Light Oil in Cumberland Pipe Line Lines	2.25
Ragland Grade Oil in Cumberland Pipe Line Lines	1.10
Lima	2.28
Wooster	2.15
Illinois	2.07
Indiana	2.08
Princeton	2.07
Plymouth	1.45
Waterloo	1.55
†Oil Springs, Canada	2.75
†Petrolia, Canada	2.68
Western Kentucky (light), (Indian Refining Co.)	2.05
Western Kentucky (heavy) (Indian Refining Co.	1.85
Warren and Simpson Counties (Ky.) (Paragon Dev. Co.)	2.05
Cumberland and Monroe Counties, (Ky.), (Paragon Dev. Co.)	2.25

†Plus Government bounty of 52½c.

Mexican Crude

*Tuxpam (f.o.b. Mexican ports)	$1.30
†Panuco (f.o.b. Mexican ports)	1.05
Tuxpam (New York)	2.20
Panuco (New York)	1.71

*Plus 29.25c tax. †Plus 16.50c tax. Prices based on contracts.

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MEMBER AUDIT BUREAU OF CIRCULATION

ABUSE OF AUTHORITY

It is time the oil industry and every other business menaced by political interference decided to fight back. More leaders are needed like Judge Amos L. Beaty of The Texas Company, who says pithily that "if we do not defend ourselves we shall not be defended."

The craze for snooping harassment of business fostered by Congress in recent years has been carried to such extremes that it must be checked if business is to go on. We have reached a stage where "investigations" have become mere fishing expeditions, where no man's affairs are safe from prowling espionage in the hope that something may be found to use against him.

The United States Supreme Court recently curbed the activities of the Federal Trade Commission along this line in the case of the American Tobacco Company. Yet the oil industry has been subjected to similar "investigation" and has generally submitted, save for Judge Beaty, who has courageously challenged the power of the commission and refused it permission to prowl through the files of The Texas Company.

His stand should be an example to the oil industry and to all other businesses suffering from political oppression. It should inspire resistance to abuse of authority. Business has endured more than enough investigations. Let it turn around and investigate Congress.

The country is having a costly demonstration of how much harm can be done by sending professional political demagogs to Congress, men who care nothing for the honor of the Nation, the dignity of our Government, for common decency or the prosperity of the people if they think they can make political capital for themselves.

Fortunately, the collection of bandits, bootleggers, blackmailers and denizens of the underworld appearing as witnesses so discredited Congress that the country's good sense reasserted itself and saved it from a nervous collapse. The one thing holding back business has been the failure of Congress to pass a sensible measure of tax reduction and go home.

This is the Congress that has been scandalizing the oil industry for political purposes. Since the first of the year it has been doing everything in its power to hamstring business, to foment dissatisfaction and to disrupt the nation. It has not a single constructive act to its credit. Its efforts and effects have been wholly destructive.

Time was when Congress was really representative of the Nation, when men of intelligence, education and affairs were chosen to make laws for the country. But of late it has sunk to the level of some State legislatures, a mere roost for professional politicians.

There was a time, too, when party organization gave the Nation assurance of cooperative administration of public affairs with an executive and legislative coordination for approved policies. Instead every effort of the executive to accomplish a definite constructive program has been thwarted by the petty politics of one faction or another in Congress.

Practically universal demand for readjustment of taxation has been made the football of factions while the business of the country has waited, uncertain of the conditions it will have to face.

The plain fact is that with underlying conditions sound and everything set for a year of progress and prosperity Congress has obstinately ignored the opportunity to give the signal to go ahead, but, on the contrary, has been running amuck, intimidating business, causing interruption of employment and inviting disaster.

The question is, can the country afford to risk another such Congress as this? No matter who is elected President, what could be accomplished with such an aggregation of misfits at the other end of the avenue?

Let your party preference be what it may, as business men, as everyday Americans working for a living, can we take the chance of electing a new Congress like that now in session at Washington?

The oil industry has been the special target of this session. There are threats that it is to be further investigated, regulated and controlled by the politicians.

There are 750,000 persons engaged in the oil business, with approximately 3,700,000 dependent who derive their principal means of livelihood from it. There are 15,000,000 Americans who have invested their money in motor cars that must have the products of this industry to keep their cars going. There are countless other industries and businesses whose prosperity and employment are affected by the supply of oil.

All these have an immediate interest in anything that affects the oil industry. They are being shown that contact. They can be aroused to the danger to themselves of political interference with business by incompetents at Washington.

And what is true of oil is true of every other business and industry, every worker in the country, all alike affected by political disturbance of business.

What the business men of the country should do and do at once is to begin an active and aggressive campaign in their own districts for the selection of capable and really representative men for Congress. They should organize and arouse public opinion to the perils of Government by mere politicians.

And the oil industry, as the immediate target of irresponsible agitators in and out of Congress, should take a leading part in the work.

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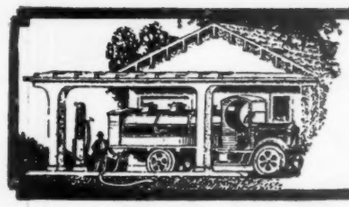

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, May 20

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
Atlanta, Ga.	22.0	3.0	26.0	14.0
Augusta	24.0	3.0	26.0	14.5
Macon	24.0	3.0	26.0	15.5
Savannah	22.0	3.0	24.0	14.0
Birmingham, Ala.	22.0	2.0	24.0	15.5
Mobile	21.0	2.0	23.0	13.5
*Montgomery	23.0	3.0	25.0	16.5
Clarksdale, Miss.	22.0	3.0	24.0	14.0
Jackson	22.0	3.0	24.0	10.0
Natchez	21.5	3.0	23.5	13.5
Vicksburg	21.5	3.0	23.5	13.5
Jacksonville, Fla.	22.0	3.0	24.0	14.0
Miami	24.0	3.0	26.0	15.5
Pensacola	22.0	3.0	24.0	14.5
Tampa	22.0	3.0	24.0	14.0
Covington, Ky.	21.0	1.0	23.0	15.0
Lexington	21.0	1.0	23.0	15.0
Louisville	20.0	1.0	23.0	14.0

*In addition to State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
New Orleans, La.	17.5	1.0	20.5	9.0
Alexandria	18.5	1.0	21.5	13.0
Baton Rouge	17.0	1.0	20.0	11.5
Lake Charles	18.5	1.0	21.5	13.0
Shreveport	18.5	1.0	21.5	13.0
Memphis, Tenn.	20.0	2.0	22.0	14.0
Chattanooga	20.5	2.0	22.5	14.5
Knoxville	21.5	2.0	23.5	15.0
Nashville	19.5	2.0	20.5	13.5
Bristol	22.0	2.0	24.0	15.5
Little Rock, Ark	21.0	4.0	23.0	13.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
Albany, N. Y.	20.0	...	22.5	14.0
*New York	20.0	...	22.0	14.0
Buffalo	18.5	...	21.5	14.0
Rochester	17.0	...	21.0	13.0
Syracuse	19.5	...	22.0	13.0
Boston, Mass.	18.0	...	21.0	14.0
Providence, R. I.	20.0	...	23.5	14.0
Augusta, Me.	20.0	1.0	22.5	14.0
Manchester, N. H.	20.0	2.0	23.5	14.0
Burlington, Vt.	20.0	1.0	22.5	14.0

*Price in steel barrels.

ROCKY MOUNTAN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
Denver, Colo.	21.0	2.0	23.0	14.5
Glenwood Spgs.	25.0	2.0	....	18.5
Pueblo	21.0	2.0	23.0	14.5
Billings, Mont.	23.5	2.0	25.5	16.5
Butte	25.0	2.0	27.0	17.0
Great Falls	25.0	2.0	27.0	18.0
Helena	25.0	2.0	27.0	18.0
Miles City	24.5	2.0	26.5	17.5
Boise, Idaho	24.5	2.0	26.5	20.0
Salt Lake, Utah	24.0	2.5	26.0	17.5
Ogden	24.0	2.5	26.0	17.5
Basin, Wyo.	22.0	1.0	....	16.0
Casper	20.0	1.0	22.0	13.0
Cheyenne	21.5	1.0	23.5	15.0
Cody	21.0	1.0	....	16.0
Lander	22.0	1.0	24.0	15.0
Albuquerque, N. M.	24.0	1.0	26.0	17.5

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
Newark, N. J.	19.5	...	....	14.0
Atlantic City	19.5	...	....	14.0
Annapolis, Md.	21.0	3.0	24.0	13.5
Baltimore	21.0	3.0	24.0	13.5
Cumberland	21.0	3.0	24.0	13.5
Washington, D. C.	21.0	3.0	25.0	13.5
Norfolk, Va.	22.0	3.0	24.0	14.0
Petersburg	22.0	3.0	24.0	14.5
Danville	22.0	3.0	24.0	14.5
Richmond	22.0	3.0	24.0	14.5
Roanoke	22.0	3.0	24.0	14.5
Keyser, W. Va.	21.0	3.0	....	14.5
Charleston	21.0	3.0	....	14.5
Parkersburg	21.0	3.0	....	13.0
Wheeling	21.0	3.0	....	14.5
Charlotte, N. C.	22.0	3.0	....	14.5
Hickory	22.0	3.0	....	14.5
Mt. Airy	22.0	3.0	....	14.5
Salisbury	22.0	3.0	....	14.5
Charleston, S. C.	22.0	3.0	....	13.5
Columbia	22.0	3.0	24.0	14.5

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
Chicago district	18.0	...	20.0	12.0
1 to 99 gals.	18.0	...	....	....
100 to 199 gals.	76.0	...	....	....
Above 200 gals.	15.25	...	....	....

Tank wagon prices on April 10, 1922, g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c; k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 16.6c; Oct. 4, k. down 1¼c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c; k. up 1c; Feb. 5, g. up 2c, k. 1c.

Decatur, Ill.	18.2	...	20.2	12.5
East St. Louis	17.1	...	19.35	11.6
Joliet	18.4	...	20.4	12.7
Peoria	18.2	...	20.2	12.5
Quincy	18.2	...	20.2	12.2
Davenport, Ia.	18.5	...	20.5	12.9
Des Moines	18.5	...	20.5	12.9
Keokuk	18.5	...	20.5	12.9
Sioux City	18.0	...	20.0	12.5
Duluth, Minn.	19.2	...	21.2	13.6
Minneapolis	18.9	...	20.9	13.6
La Cross, Wis.	19.2	...	21.2	13.4
Milwaukee	18.1	...	20.1	12.2
Madison	18.3	...	20.3	13.5
Detroit, Mich.	18.3	...	20.8	13.2
Grand Rapids	18.7	...	20.7	13.1
Saginaw	18.9	...	20.9	13.3
Evansville, Ind.	20.0	2.0	22.0	13.5
Fort Wayne	20.4	2.0	22.4	12.9
Indianapolis	20.2	2.0	22.2	12.7
South Bend	20.4	2.0	22.4	12.9
Fargo, N. D.	20.6	1.0	22.6	15.6
Huron, S. D.	22.0	2.0	24.0	14.1
Sioux Falls	18.0	2.0	20.0	13.6
*Kansas City Mo.	18.9	1.0	20.9	11.3
Springfield	17.8	...	19.8	13.2
*St. Louis	17.6	0.5	19.9	13.0
*St. Joseph	18.0	0.5	20.0	11.9
Wichita, Kans.	17.8	...	19.8	11.8
Bartlesville, Okla.	19.4	2.5	21.4	10.9

*City tax.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
San Francisco	17.0	2.0	20.0	15.5
Los Angeles	16.0	2.0	19.0	16.5
Fresno	17.5	2.0	20.5	17.5
Reno, Nev.	20.5	2.0	23.5	19.0
Portland, Ore.	19.0	2.0	22.0	16.5
Seattle, Wash.	18.0	2.0	21.0	16.5
Tacoma	18.0	2.0	21.0	16.5
Spokane	22.0	2.0	25.0	20.5
Phoenix, Ariz.	23.0	3.0	26.0	21.5

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
Dallas, Tex.	16.0	1.0	20.0	10.0
Fort Worth	16.0	1.0	20.0	11.0
Houston	17.0	1.0	21.0	12.0
San Antonio	16.0	1.0	18.0	10.0
El Paso	18.0	1.0	22.0	13.0
Muskogee, Okla.	20.5	2.5	23.5	12.0
Oklahoma City.	18.5	2.5	23.5	11.0
Tulsa	20.5	2.5	23.5	11.0
Ft. Smith, Ark.	18.0	4.0	22.0	12.0
Little Rock	22.0	4.0	26.0	13.0
Texarkana	21.0	4.0	24.0	13.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
Omaha	15.0	...	17.0	12.5
Crawford	19.00	...	.....	13.25
McCook	19.75	...	21.75	14.0
Norfolk	18.75	...	20.75	13.0
North Platte	19.75	...	21.75	13.75
Scotts Bluff	19.25	...	21.25	13.25

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
*Pittsburgh, Pa.	20.0	...	25.0	14.0
*Philadelphia	20.0	...	25.0	14.0
*Scranton	20.0	...	25.0	14.0
*Allentown	20.0	...	25.0	14.0
*Altoona	20.0	...	25.0	14.0
Dover, Del.	22.0	2.0	25.0	14.0
Wilmington	22.0	2.0	25.0	14.0
Providence, R. I.	20.0	...	23.0	14.0
Springfield, Mass	20.0	...	23.0	14.0
Worcester	20.0	...	23.0	14.0
Boston	20.0	...	23.0	14.0
Hartford, Conn.	21.0	1.0	24.0	14.0
New Haven	21.0	1.0	24.0	14.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Incids tax of	Service station	Tank wagon
All Ohio Points.	20.0	...	22.0	15.0

GENERAL WEAKNESS IN WEST PENN MARKETS

OIL CITY, Pa., May 18.—All of the refined markets in the northwestern Pennsylvania district are weak at the present time.

There is quite a pronounced weakness in gasoline. There seems to be a great deal of distress gasoline on the market which is being offered below the quoted prices. However, at the same time many of the refiners believe that there may be a rapid pickup in the gasoline situation. They state that it would not take a great many days of very pleasant weather, especially if a Saturday and Sunday were included, to clean up all the distress gasoline in this territory.

There has not been much of a change in the kerosene situation.

Cylinder stocks are softer and the prices are down compared with those of the previous week, although there are rumors that one of the largest companies is coming into the market for these products in the near future. Neutrals are safer than they have been for some time and there does not seem much chance for their improvement. Fuel oil is extremely weak, due in part to the gasoline situation and the closing of cracking plants. Wax is soft and the price in most places is down with a greatly decreased demand.

$600,000 WORTH OF CRUDE UP IN SMOKE

HOUSTON, Tex., May 21.—Lightning last night struck four 55,000-bbl. steel tanks of the Humble Oil & Refining Co. at Webster tank farm 20 miles southeast of Houston. The tanks contained Mexia and Powell crude. The loss is estimated at $600,000.

An 85,000-bbl. tank at the Dill farm of the company in the Powell Field was struck at the same time but the loss there will be small.

TANK WAGON CHANGES

May 16.—Standard Oil Co. (Kentucky) reduced kerosene tank wagon price at Jackson, Miss., 1 cent.

May 17.—Magnolia Petroleum Co. reduced gasoline tank wagon and service station prices 1 cent at Dallas and Fort Worth, Texas. Magnolia Petroleum Co. reduced kerosene tank wagon price 1 cent at Ft. Smith, Ark.

May 19.—Standard Oil Co. (Indiana) reduced gasoline tank wagon and service station prices 0.1 cent at Sioux City, due to adjustment in freight rates.

May 20.—Standard Oil Co. (Nebraska) reduced gasoline tank wagon and service station prices at Omaha 3.25 cents.

MID-CONTINENT REFINERY OPERATIONS WEEK ENDING MAY 10

A reduction of 16,349 bbls. in total oil run to stills by the 144 reporting refineries having a total capacity of 535,900 bbls., was shown for the week ending May 10, by the Western Petroleum Refiners Association. This figure marks a decrease of 0.96 per cent compared with report for May 3. With the report for May 10 the Western Petroleum Refiners Association limits the Mid-Continent refineries to the inland plants, giving the reports of six Gulf Coast refineries in another table. The 138 idential plants in the Mid-Continent, however, showed a decrease of 32,881 bbls. in crude runs with an increase of 16,532 bbls. in semi-refined and re-run oils, giving a net decrease of 16,349 bbls. For these plants the output of gasoline increased 20,408 gallons or 0.08 per cent, to a total of 24,353,238 gallons. Shipments of gasoline decreased 4.57 per cent and stocks increased 0.34 per cent to 146,262,486 gallons. The output of kerosene decreased 189,775 gallons or 3.29 per cent to 5,579,007 gallons. Kerosene shipments decreased 8.11 per cent and stocks decreased 0.76 per cent to 17,218,385 gallons. Fuel and gas oil output increased 154,955 gallons or 0.52 per cent to 30,074,367 gallons. Shipments increased 5.15 per cent and stocks increased 0.88 per cent to a total of 95,040,602 gallons. The six Gulf Coast refineries with a capacity of 54,050 bbls. showed a decrease of 7.31 per cent in oils run to stills, an increase of 34.67 per cent in gasoline output; an increase of 16.87 per cent in kerosene output and a decrease of 35.41 per cent in gas and fuel oils. Gasoline stocks at the six refineries increased 1.76 per cent; kerosene stocks increased 4.88 per cent and gas and fuel oil stocks decreased 7.08 per cent.

CONSOLIDATED STATEMENT COVERING ALL REPORTING REFINERIES FOR THE WEEK ENDING 7 A. M., MAY 10, 1924

	Kansas	Oklahoma	Texas	N. Louisiana-Arkansas.	Total.	May 3, '24	Apr. 12, '24	Mar. 15
Number of refineries reporting	26	62	40	10	*138	144	143	139
Daily capacity (bbls.)	86,600	265,700	104,550	25,000	481,850	537,400	535,400	535,400
Combined operations during week: Materials to stills (bbls.)								
Crude, Item A	291,673	804,484	268,436	82,102	1,446,700	1,805,686	1,873,643	1,857,491
Other oils (see note) item B	33,851	145,826	42,352	14,731	236,760	356,403	315,040	429,159
Total	325,529	950,310	310,788	96,833	1,683,460	2,162,089	2,188,683	2,287,650
Output (gallons).								
Gasoline, Item C	4,778,643	14,386,938	4,249,128	938,529	24,353,238	26,966,402	26,127,835	26,989,566
Kerosene, Item D	1,578,825	2,801,555	894,541	304,086	5,579,007	6,023,984	5,521,665	6,001,356
Gas and fuel oil, Item E	5,875,846	16,508,557	5,911,263	1,778,701	30,074,367	29,512,915	42,060,926	41,049,240
Stocks on hand at close of week: Materials for stills (bbls.):								
Crude, Item J	806,253	4,375,226	1,142,368	833,959	7,157,906	7,686,638	7,847,754	8,095,698
Other oils (see note), item K	54,473	1,203,698	130,123	510,401	1,898,695	2,290,875	2,135,967	2,235,369
Finished products (gallons):								
Gasoline, Item L	18,531,626	109,931,561	15,680,265	2,119,034	146,262,486	190,705,100	185,857,648	166,572,134
Kerosene, Item M	2,047,220	10,439,697	4,562,711	168,357	17,218,385	22,659,401	24,977,464	24,360,684
Gas and fuel oil, Item N	9,323,344	63,787,694	19,229,567	2,700,597	95,040,602	129,422,007	134,295,761	125,768,237

*Excluding six Gulf Coast refineries formerly included in report.

Note: Other oils includes all oils other than crude which are either purchased or withdrawn from stocks and run to stills during the week. The total of Items A and B is, therefore, the net quantity of materials consumed by the reporting refineries in producing the quantities of products shown as the result of the operations of the refineries during the week. Item K includes all stocks of oils other than crude held for further refining

SINCLAIR
OILS
EVERY lubricating oil marketed under the Sinclair trade-mark is made for the perfect lubrication of some particular Industrial machine.
The Sinclair Trade-mark oils are suitable for the lubrication of all machines from high speed Cotton Spindles to ponderous Rolling Mill Equipment. This trade-mark stands for the most complete satisfaction in general lubrication practice.
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Cable Address "Lucent"

Consumer is Getting the Story of Oil

The Daily Press and the Public Find It Interesting. Oil Companies and Associations Spreading the Truth

By L. M. Fanning

NEW YORK, May 19.—For the first time in its history, the petroleum industry is telling its story to the public. There is no evidence that at any other time in the course of the industry's development has the industry as a whole or otherwise made any constructive effort to inform the public of the facts vitally concerning it. Even now the industry as a unit is not functioning concertedly, but so much progress has been made in the adjustment of industry and company policy to a realization of the need of publicity with resultant actual steps taken in many cases, that, looking at it broadly, the conclusion that the public is now being told the story of oil is justified. But this does not mean in any sense that the whole job has been done.

While the necessity for informing the public was generally realized throughout the industry and in certain isolated instances efforts had been made to meet this need, it is now possible to state that the mind of the industry needed some direct dynamite to really crystallize the movement. This was supplied by The Oil and Gas Journal's publication of The Oil Industry's Answer. With this material available for immediate use and with its adaptability for use in the many direct and indirect ways that must be adopted to accomplish the purpose in view, the industry is seizing the opportunity it affords and is actually doing something.

The use to which The Oil Industry's Answer is being put by the various oil companies comprehends every phase of the educational field. Broadly, the field comprises, first, the education of those directly employed in the industry; second, the education of the dealers—the service station man, the garage and curb pump man—who are the industry's direct contact with the public; and, third, the education of the motorist and the great consuming public.

Educational Methods

The methods involved in this educational process are in the first two instances the placing in their hands of the proper kind of literature and the training of the men in the fundamental facts of the industry so they are equipped to inform the public. In the case of the education of the motorist and the public, the methods promising the best results in this constructive movement are, first, the informed contact represented by the salesman, the agent, the dealer and the filling station man trained to tell the facts about the industry to the industry's customers. Second, an informed press. Third, presentation of the facts in the news and advertising columns of the press of the country. Fourth, presentation of the facts in lectures and addresses.

Giving due recognition to the fact that each one of these methods is a part of the whole, that no one plan or effort can do the entire job but that with all working to the same end systematically and constantly the ultimate result will be public recognition of the problems of the industry, the impetus supplied by The Oil Industry's Answer is the more worth noting.

Companies are distributing this book to all within their organization who come in contact with the consuming and outside public. Salesmen, agents, tank truck drivers and filling station attendants are receiving copies with instructions, and in some cases definite orders, that they read the material and pass along the information. The Standard Oil Co. (New Jersey) has distributed the book among its training classes as a part of the course of study.

Through sales managers and dealers the book is being placed in the hands of motorists, local customers, local public officials and local editors.

Material in The Oil Industry's Answer, including text, graphs and charts, have been provided by oil companies as news matter to newspapers and are appearing in papers in small and large cities in many parts of the country. In addition many oil companies are incorporating the material in their advertising, some of which has already appeared and is now appearing and some of which is mapped out for insertion during the balance of the year.

Supplied to libraries, educational institutions and public officials, the book is a new medium of information concerning oil being utilized by speakers, instructors, students and law makers.

Under the circumstances, it is not an exaggeration to ascribe to The Oil and Gas Journal's contribution the crystallization of the industry's movement to inform the public.

One Big Company's Campaign

The use to which the Standard Oil Co. (New Jersey) is putting The Oil Industry's Answer is fairly typical of what is being done. In addition to its training classes comprising about 500 employes; sales, local agents and active customers are being supplied with the book. In the April issue of the Salesmotor, published by the company for the men and women engaged in marketing its products or the products of its subsidiaries, the company says regarding The Oil Industry's Answer:

"Though volumes have been written on the subject of petroleum, its various activities and problems, investigation proves that few of them are consistently read. Yet, accurate and timely information is essential to successful handling of our daily problems. And to a greater extent is this true in the marketing department than in almost any other.

"For it is the salesmen who come into most direct contact with the public through their service to the trade, and to them are addressed the majority of inquiries relating to our business. Whenever possible these questions should be answered intelligently and completely. In recognition of this obligation and of the need for an authoritative basis for replies the company is furnishing each member of the sales organization with a copy of The Oil Industry's Answer, reprinted from The Oil and Gas Journal, Tulsa, Okla. These are being sent to the various branches for distribution. If, in due time, you do not receive a copy, it can be had by applying to your agent or manager.

"Certainly it should be taken home and studied, page for page. Then, retain it in a handy place for reference on questions which cannot be readily answered. The Oil Industry's Answer contains much valuable information which should prove extremely helpful to the public and the company.

"But its degree of usefulness is dependent upon how and to what extent the content is applied. Use it!"

The company has instructed its local sales representatives to put the book in the hands of all those who they believe will be interested in it, including local public officials and local editors, in addition to sending the book directly to many newspapers in its territory.

To 400 Newspapers

It sent out to some 400 newspapers in New Jersey, West Virginia, Virginia, Washington, D. C., Maryland, North Carolina and South Carolina, clip sheets and also three short articles accompanied by three matrices, material and graphs originating in The Oil Industry's Answer. These stories are appearing in both large and small city newspapers. So far the returns show that over 100 newspapers have used the material and that over 150 stories have been carried. A remarkable feature is that the material has had good heads and excellent position. Many newspapers receiving this matter have expressed their interest, and editors have expressed a desire to be supplied with material of this character.

The Standard Oil Co. (New Jersey) has also incorporated some of the information contained in The Oil Industry's Answer in its forthcoming summer tour advertisements. These will appear in newspapers throughout its marketing territory.

EVERY DAY, EVERY WAY BETTER AND BETTER

The Oil and Gas Journal has a birthday this week. Founded May 24, 1902, it was established by P. C. Boyle as an international publication on oil June 16, 1910. It enters its twenty-third year resolved to maintain and increase the record of service to the industry which has won it universal recognition as the world's greatest oil publication.

THE OIL INDUSTRY'S ANSWER TO BE CARRIED IN EACH SALESMAN'S CASE

Among other companies using "The Oil Industry's Answer," published by The Oil and Gas Journal in its issue of March 20 and subsequently reprinted in booklet form, is the Transcontinental Oil Co. T. R. Cowell, vice president, writes:

The Oil and Gas Journal,
Tulsa, Okla.

Gentlemen: I wish to acknowledge receipt of "The Oil Industry's Answer," sent to the Transcontinental Oil Co.

I have given a copy to each of the executive officers of our company and each one has expressed his appreciation of this work and the very valuable information and data you have so carefully compiled and assembled in this ready reference booklet.

We have placed several hundred of these booklets in the hands of our salesmen, distributors and service station men, with written instructions to our employes to read and familiarize themselves with the contents. Henceforth each of our salesmen will carry "The Oil Industry's Answer" in his case, thus being prepared, at all times, to answer the many questions and criticisms propounded by the laymen and customers of Marathon Products pertaining to the oil industry.

I believe this method of getting the story over to the public, who really know so very little about the oil business and the hazards of the game, will be far reaching. If all of the larger oil companies would pursue a similar plan in educating their own employes and through them their customers, the results could not help but be of untold benefit to the industry as a whole.

Again expressing to you our appreciation of the good work you have already accomplished in enlightening the public and awakening the oil industry to the dangers ahead, I am,

Sincerely yours,

T. R. COWELL,
Vice president.

TO APPOINT COMMITTEE ON PUBLICITY FOR OIL

The executive committee of the Mid-Continent Oil & Gas Association endorsed the movement to tell the fact concerning the oil industry to the public, and passed a resolution authorizing the chairman to appoint a committee to work out the details concerning the method to be employed and the approximate time for presentation to the public. W. N. Davis, president of the association, was chairman of the meeting, and is expected to appoint the publicity committee soon.

The resolution passed by the executive committee approved the proposition of giving out information for the education of the public and instructed the officers of the association to participate in a coordinated and uniform plan of publicity to be worked out within a few weeks. Details concerning the plans for public information and the method to be used will not be made public until later, according to Harry H. Smith, secretary of the association.

GERMAN EXHIBITOR AT THE BIG OIL SHOW

The honor of being the first foreign exhibition to reserve space in the International Petroleum Exposition in Tulsa in 1924, falls to the firm of Alfred Wirth & Co., Erkilenz, Rhineland, which has reserved two spaces and will exhibit a miniature steel rotary derrick of the type used in European oil fields, together with a complete miniature rotary outfit in operation. The firm makes a general line of oil well supplies in more than one factory, its Erkilenz plant being devoted to engines, rotary and cable tools and derricks and rigs. Its main office is in Duseldorf.

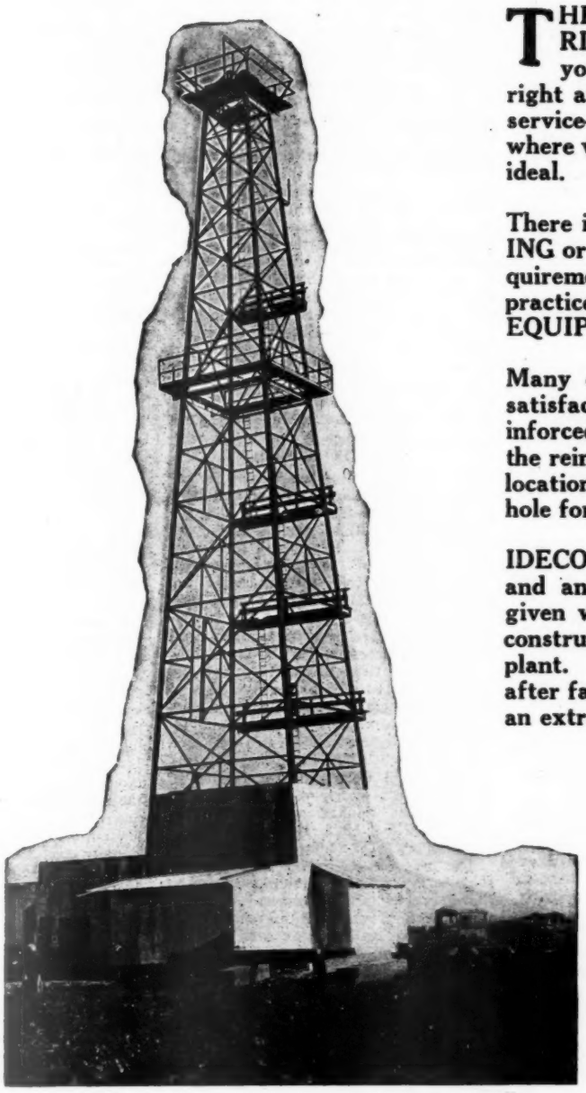
COSDEN STATEMENT

J. S. Cosden, president, said in his statement to stockholders, that while the company could hardly escape conditions prevailing in the industry last year, "it is gratifying to state that the ground lost has now been largely recovered through operating profits as well as improved inventory values. The market for crude and refined products has greatly improved since the beginning of the year, and it is our expectation that accumulated profits will place the company in shape to resume, in a reasonable time, the payment of dividends on the common stock, which was suspended last fall."

CALIFORNIA APRIL PRODUCTION

LOS ANGELES, Cal., May 20.—The production of California in the month of April was 19,299,849 bbls., an average of 643,328 bbls. a day. Crude stocks at the close of April were 97,355,850 bbls. The average for April was 965 bbls. a day higher than of March, and stocks increased 668,931 bbls. over stocks at the close of March.

The Strongest Derrick



THE HISTORY of IDECO STEEL DERRICKS in every field has established beyond question that they are designed right and built right to deliver 100 per cent service—a safe investment in the oil fields where working conditions are often far from ideal.

There is a specific IDECO STEEL DRILLING or PUMPING RIG for your special requirements—You will recognize the best practices of every field embodied in IDECO EQUIPMENT.

Many operators have found economy and satisfaction in Drilling with an IDECO Reinforced Standard Steel Rig and removing the reinforcing members to the next drilling location, leaving the original tower over the hole for PUMPING and clean-out service.

IDECO DERRICKS are built of beams, bars and angles giving greater strength for a given weight than any other form of steel construction. Fabricated entirely in our own plant. By IDECO method of galvanizing after fabrication every exposed part is given an extra heavy protective zinc covering.

The 122-ft. IDECO STEEL DERRICK illustrated is of the superheavy type reinforced Drilling Derrick with Safety Platforms and offset ladders, Kelly Platforms and Crows Nest. This installation is typical of the IDECO combination drilling rigs conforming to all legal safety standards and best practice of the California oil fields.

International Derrick & Equipment Co.

Columbus, Ohio

The largest company devoted exclusively to the manufacture of Steel (Galvanized) Equipment for the Oil, Gas and Artesian Industries.

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Tulsa Shreveport Houston Casper Los Angeles Taft Oil City

Export Representation

Wilcox Sand Elusiveness Is Its Charm

The Most Talked-of and Desirable Oil Bearing Formation in the Oklahoma-Kansas Fields Has Many Peculiarities

By C. D. Lockwood

As an ideal subject for discussion and debate, no geological theme creates more widespread popular interest among oil men in the Mid-Continent than the stratigraphy or succession of formations below the Mississippi lime. Veteran drillers and production men in the Osage know these formations as "breaks in the lime," while the majority of geologists have accepted the theory advanced in the March 13 issue of The Oil and Gas Journal under the title, "Four Horizons Below the Mississippi Lime," and call them the "Wilcox Sand Series." The absence of some of the formations in various places, and differences of opinion as to where the "Big Lime" or Mississippian, actually begins have caused endless confusion and many complications, because when the geologist refers to the top of the lime, he may be speaking of a formation considerably higher than that which an old driller has called the top of the "Big Lime" for many years.

These differences are gradually being eliminated as new data are supplied and as production men come to realize that the geologist studies the formations from a broad viewpoint over the entire field rather than in a particular localized area. However, the characteristics of the four horizons, the peculiarities of the formations in various places, the productivity of the various sands in the series, and the possibilities of discovering new sources of the golden fluid through deeper drilling in the older areas of Oklahoma and southern Kansas have never created more active interest than at the present time. The drilling reports contain many references to old wells drilling deeper and new tests started in quest of the second break, and within the past few months new pools uncovered as a result of this activity have stimulated drilling campaigns of the first magnitude. The Stroud Field in Lincoln County, which last week jumped into the 19,000-bbl. class, and the Tonkawa Field, where more than 40 tests are speeding for the lime, are the most conspicuous although several other smaller pools now under development in the Osage should reach very decent proportions.

In view of the general crude situation, the extent to which these efforts to open new lime pools are successful is of considerable importance. It is a well known fact that the production decline curve in the lime is generally steep but the wells make a lot of oil in a short time, and a few pools such as the one at Stroud could upset calculations and seriously affect the market. A careful study of the history of efforts to uncover the Wilcox sand throughout the State, however, coupled with a study of the results to date shown on the accompanying map, reveals some interesting facts, and makes it seem unlikely that the lime will be a dangerous factor.

Great Interest in the Wilcox

The general popular interest in this subject has built up around the Wilcox sand a reputation out of all proportion to the extent of its producing area. Perhaps the rarity of Wilcox production, the difficulty of finding it, the increased odds against the operator who goes after it and the generous reward that usually attends success, have been the principal contributing factors to this reputation. Everybody knows that as a rule Wilcox pools are exceedingly limited in area, but even considering this fact it is surprising to count up the total acreage of all wells producing from the four horizons below the Mississippi lime and find that they could all be gathered together within a space about one-tenth larger than the area of the city of Tulsa.

The total area of these pools amounts to less than 7,680 acres, or a third of one township. This figure seems more surprising when it is considered that the development of the Wilcox sand dates back as far as April, 1914, and has continued actively ever since; and when the total average of all sands in Oklahoma that has been added to the producing area in the same period of time—from January, 1914, to December, 1923—is compared to the total Wilcox acreage, the result is even more significant. In that period, 54,941 producing oil and gas wells were brought to completion in Oklahoma, and allowing five acres to each well, the developed acreage of all sands totals 274,705 acres, or more than 36 times as much as the Wilcox acreage alone. That this proportion is not due to lack of drilling below the lime is plainly apparent by a close study of the dry hole depths on production maps of the area involved. Much recent talk of drilling deeper in old structures, in fact, does not take account of the vast number of wells that have already been drilled deeper, especially in the Osage.

Many of the old areas have had their deep tests so long ago that they have practically been forgotten. In southern Kansas, for instance, where considerable excitement over Wilcox possibilities has been worked up recently due to a couple of discoveries, a deep test, known as the Caney deep well, was drilled 1,240 feet below the top of the Mississippi lime some time prior to 1908. A log of this well, printed in the Independence Quadrangle, which was issued in April of that year, shows that the top of the lime was found at 1,560 feet and the hole was carried down to 2,800 feet before it was plugged and abandoned. This well was located in the southwestern corner of Montgomery County near the Oklahoma line.

Another interesting fact concerning deeper drilling in the old fields with which comparatively few producers are familiar is that there are three Wilcox sand pools in the old Glenpool district. These are shown on the accompanying map.

Chances of Success Vary

Many good structures remain to be drilled, of course, and numerous new Wilcox pools are likely to result as a natural consequence, but a close study of the geological formations and the map showing the pools already found, leads to the conclusion that the operator inevitably faces far greater odds in drilling for the lime north of the Green shale line than he does south of it, and his chances are also cut down considerably south of the lime marking the northern limit of the "Buttermilk Lime." The reason is obvious. In the northern sector, he can expect to find production only in the horizon that is shown on the generalized sketch as the Hominy sand, with the limited possibility of getting the Turkey Mountain also. In the southern sector, he has a chance at the original Wilcox and the Misener sand, but the latter is limited in extent and of little importance. In the middle region, he can reasonably expect a chance of production in all horizons except the Misener. While no definite figures to substantiate the claim are available, it is said that the proportion of structures north of the Green shale lime carrying Wilcox production may be as low as one in a hundred, while in the area between the two lines, the gamble might be as good as one in ten.

Wilcox Peculiarities

The peculiarities of the Wilcox formations are nowhere more pronounced than in the Okmulgee-Slick district and the whole of the southern region on the accompanying map. In general, the Green shale appears to be absent there although several wells scattered over the area have reported it, and the most logical theory seems to be that the formations down there run in troughs, and that erosion accounts for the absence of certain formations in different places. However, too little data are available to draw any general conclusions. The southernmost Wilcox well in Oklahoma reported a little Green shale, in fact. This was the Atlantic Oil Producing Co. and the Josey Oil Co.'s producer located in the southwest corner of Section 28-12-11, Okfuskee County, which was completed in June, 1923, having picked up the sand at 3,717-24 feet.

The presence or absence of the Green shale is a matter of vital importance to the operator in this general southern region, for if water is encountered in the upper or main Wilcox sand and the Green shale is absent, the test might as well be plugged and abandoned as there is no chance of finding production below. When it is positively known that the Green shale and sand series is present in any district, a well should not be considered as having tested all sands until it has passed through the whole of the Green shale or Tyner series and drilled far enough into the Siliceous lime (Ordovician) below to determine the presence or absence of oil in the lower formations. This is true of practically the entire middle area shown on the map.

A good example of the advisability of drilling through the water where the Green shale is present occurred in the Turkey Mountain Pool where water was encountered in the top of the Wilcox series and some wells might have been abandoned had not one test been carried down to the lower level where it was completed as a good well. It is necessary, of course, to carefully study the logs of wells in the territory near a test to determine whether or not the Green shale may be expected.

Contrary to general belief, the largest Wilcox Pool considered from the standpoint of acreage covered, is not the one in Section 22-14-11.

Discovery of Wilcox Sand

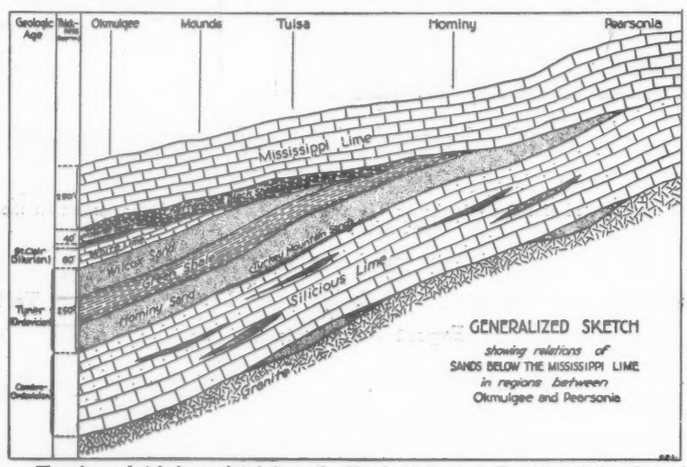
The discovery pool in the Wilcox sand still holds the record for area, although it has been developed so long that many persons have lost sight of it. The well which gave the deep sand a new name and brought to H. F. Wilcox international renown was his No. 1 Gracie Call on his lease in the northwest quarter of Section 3-16-13, near Bixby, Tulsa County, which was completed on April 29, 1914, for 600 bbls. at 2,089 feet. The pool was developed conservatively over a period of several years and finally covered approximately 640 acres.

The nearest competitor to this one is the pool discovered by Black & Simon in the northeast quarter of Section 12-14-11, in western Okmulgee County. Although narrow, this pool extends more than three-quarters of a mile in length and covers about 260 acres. The production of several of the wells was exceptionally good also, one of them, completed in March, 1920, still holding up to a daily average of 200 bbls.

The pool near Depew, which is shown on the map as embracing 300 acres, more or less, has not yet been fully developed and the production is rather lean. The first well there was brought in by the Pure Oil Co. on October 21, 1922, and was one of the best in the field. It found the sand at 3,753-71 feet and produced 43 bbls. an hour initially at that total depth.

These two are the largest areas producing from the Wilcox series, although there are several others of fairly good proportions, particularly in the Mounds and Beggs regions, just north of Okmulgee and also in the district around Hominy in Osage County. The former locality, in fact, has almost created a new name for the upper Wilcox sand as the horizon was not only discovered near Mounds but is most prolific in that area. The existence of five pools embracing a total of 840 acres near Hominy clearly explains how the Hominy sand happened to get its name. The Superior Oil Co. within the last few weeks opened up another in Section 3-23-8 with a well which averaged more than 4,300 bbls. daily. This was formerly an old Burgess sand field.

In the entire State of Oklahoma, there are less than 35 Wilcox sand pools which have reached the 100-acre class



The above sketch is reprinted from the March 13 issue of The Oil and Gas Journal because the accompanying map is supplementary to it, and the sketch shows the formations referred to.

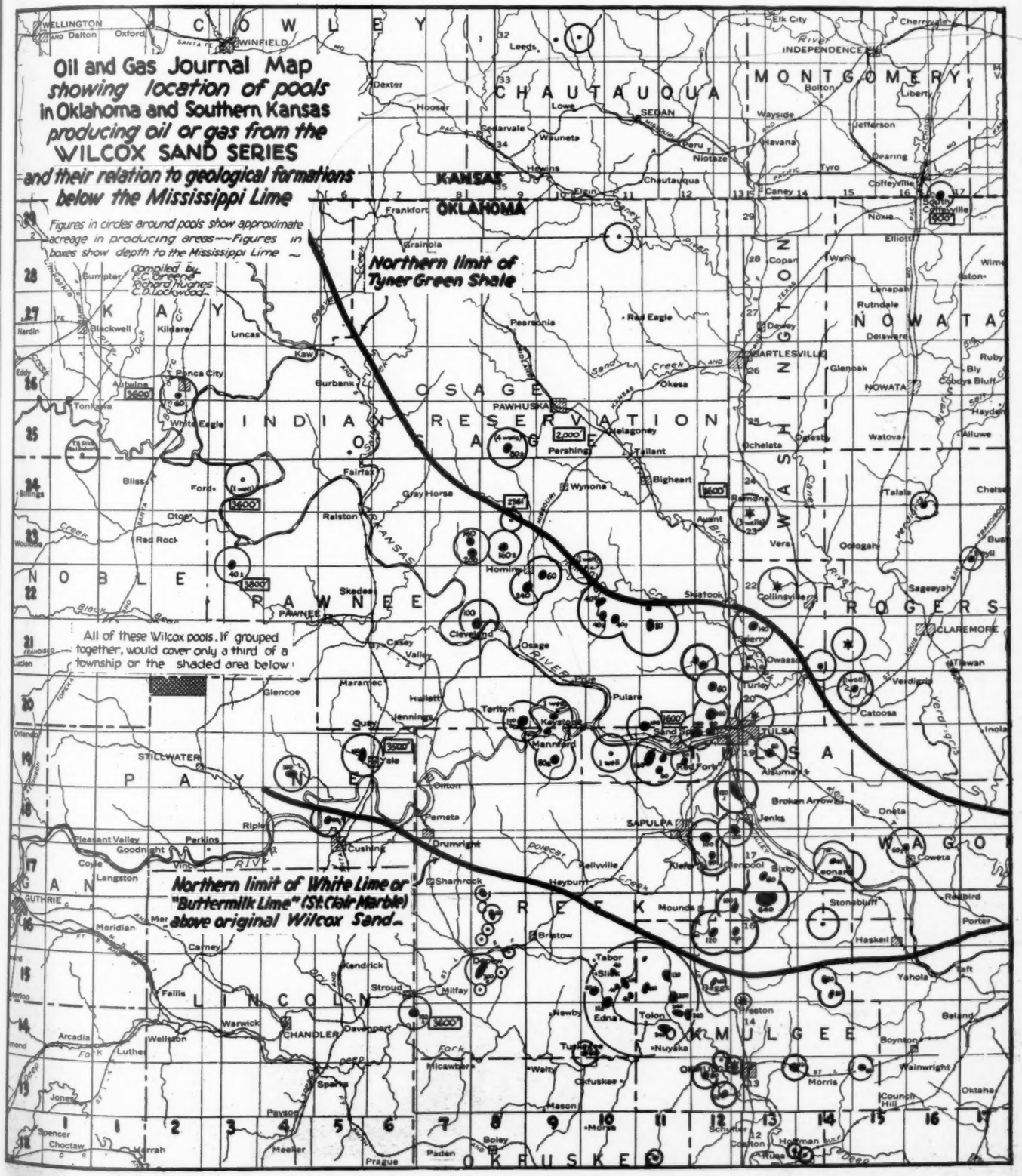
or better, and an equal number can hardly be called pools at all as they contain only one or two wells. The average size of all Wilcox sand wells in the State, obtained by dividing the total number of pools into the total acreage figures shown on the map and allowing each of the 1-well pools 10 acres, is just a little less than 80 acres per pool. This is a generous figure as the estimated acreage is a little high in nearly every case and allowances on a few pools include some territory not fully developed but which can reasonably be expected to be added as drilling progresses.

Produces High Gravity Oil

High gravity is a characteristic of Wilcox oil, but the feature Wilcox sand well from the standpoint of gravity, is the Barnsdall Oil Co.'s No. 16 in the southwest quarter of Section 29-21-12, just north of Tulsa. It was completed December 28, 1923, for 240 bbls. of 52 gravity oil, about 3.5 degrees higher than two other producers on the same tract and about 2 to 3 degrees above the Grimes & Gillespie production in Section 30-21-12. There is a strong possibility that this region may take the acreage honors away from the original Wilcox Pool as wells now drilling will determine whether or not the two small pools are connected. If they are, the union will make the largest Wilcox Pool in existence.

Honors for the discovery of the second break in the lime in Osage County are hard to bestow because of the scarcity of records extending back of 1914. One of the veterans who started pushing tools in Oklahoma in 1903, says that a gas well was completed in the second break in 1907, and a small oil well the next year.

(Continued on Page 127)



The above map was compiled from information drawn from many sources. Frank C. Greene, president of the Tulsa Geological Society, started it with a map which he presented at a recent meeting of the Society, and Richard Hughes, of the Cosden Oil & Gas Co., added considerable data. Production men and veteran drillers contributed information concerning the older pools. The heavy black lines are generalized and do not attempt to show local variations. Outlines and shapes of pools are also generalized and sizes of black dots are exaggerated. Figures in large circles around pools indicate approximate producing acreage. "Plus or minus" sign after one of these figures means pool is not fully developed.

Oklahoma Field Operations

By C. D. Lockwood

Fourteenth producer in Stroud Field is good and puts pool over 20,000-bbl. mark; Alcorn Oil Co. opens up new territory northwest of Tonkawa Field with 300-bbl. wildcat; two good wells in northwest Graham Field extension attract attention to that area while other miss pay; Burbank drops 4,414 bbls.

The continued slump of production in the Burbank Field, the addition of another good producer to the Stroud Field, and the Petit Pool in Osage County, the interesting developments in the northwest extension to the Graham Field and the opening of new territory northwest of the Tonkawa Field by the Alcorn Oil Co., were the high spots of the week in the Oklahoma Fields.

The most interesting of the areas which attracted attention during the past week was the one northwest of the Tonkawa Field where the Alcorn Oil Co.'s wildcat, No. 1 Thomas, SW cor. Section 15-25-2w, found the pay sand at 2,070 feet and when drilled five feet in, it was good for 15,000,000 feet of gas and 300 bbls. of oil. Due to the fact that there was no tankage on the lease, it was shut in temporarily until some storage could be erected. This well is about 1 mile south and a half mile east of the same company's No. 1 Chambers, in the SW cor SE, Section 9-25-2w, which created quite a furore last year, but which was finally abandoned at 3,445 feet. It is about 6 miles west and 3 miles north of the Tonkawa Field.

The newest producer in the Stroud Field was the J. A. Hull Co.'s No. 1 Petty, on the 7-acre strip just west of the Key West townsite. It topped the big pay at 4,097 feet and was flowing steadily at 4,108 feet and drilling ahead. It was estimated to be making about 30 or 35 bbls. an hour and indications are that it will be on a par with the other producers in the field.

Two Producers in Graham

In the northwest extension of the Graham Field, interest was revived to some extent as a result of two new producers. The Fitzgerald, Hinkle & Westheimer's No. 2 Williams, C SE SE NW, Section 23-2s-3w, flowed 380 bbls. in 24 hours from sand topped at 2,136 and drilled seven feet in, although the hole partly bridged and was being cleaned out. Offsetting this producer, the Magnolia Petroleum Co. brought in its No. 2 Williams, C SW SW NE; same section, which flowed 450 bbls. in 24 hours from sand topped at 2,043 feet and penetrated 13 feet.

A quarter of a mile northeast of the Skelly Oil Co.'s No. 1 Davis, which opened up a big drilling campaign in the northwest extension, and which is now making about 70 bbls. daily, Wirt Franklin's No. 1 Akers, SW cor. NE SW NW, Section 23-2s-3w, in the town of Fox, was drilling at 2,641 feet in sandy shale, having missed the 2,100-foot and 2,400-foot sands. A mile and a half northwest of production, the Wildwood Oil Co.'s No. 1 Carpenter, SE cor. Section 15-2s-3w, was drilling at 2,395 feet in sandy shale.

Production by Fields

Production in the principal fields of the State was on the decline during the past week due to Burbank's fall. The loss of 4,414 bbls. there could not be offset by the others although both the Wewoka and Papoose district reported gains. Wewoka's daily average production for the week ended May 14 was 6,957 bbls. from 51 wells, an increase of 631 bbls. and one producer. The Papoose Pool reported 2,362 bbls. daily from 9 wells, an increase of one producer and 581 bbls. The Cromwell Field made 7,799 bbls. daily from 11 wells, but the new Amerada well which was making about 4,500 bbls. daily was not included in the gusher contributing to the field. Cromwell production exceeds that of Wewoka and Papoose combined. The Stroud Field went over the 20,000-bbl. mark on May 19, reporting a production on that date of 20,899 bbls. from 14 producing wells.

Field operations in the State declined a little more showing a tendency to slow up in conformity with the general feeling that a little less drilling will be a big help to the crude situation, although this tendency is not very marked and is most noticeable in the older settled areas. On May 10 there were 64 locations, 263 rigs, 1,121 drilling wells, 244 wells shut down and 98 completions, a total of 1,790 operations, while the week before there were 1,811 operations, a loss of 21 throughout the State. This loss was mostly in new locations, of which there were 14 less, and rigs, which were fewer by 15. The number of wells shut down declined 28 while the number of wells drilling increased 32 and there were four more completions on the latter date.

New Burbank Tracts

Several producers have been completed on the new tracts in the Burbank Field, but they have not proved to be of the calibre necessary to hold up the declining production. The Midland Oil Co.'s No. 15, NW cor. NE NW, Section 14-27-5, reached the sand at 3,040-77 feet and was good for about 50 bbls. natural. After a shot of 80 quarts it made 250 bbls. in the first 24 hours. The Kewanee Oil & Gas Co.'s No. 5, SE cor. SW SE, Section 18-27-6, made one flow of about 10 bbls. after a shot of 80 quarts in sand at 2,910-61 feet, and swabbed about 50 bbls. in the next 24 hours. The Phillips Petroleum Co.'s No. 9, in the SW cor. NW SW of Section 11-27-5, found the sand at 2,940-92 feet and made 33 bbls. the first hour natural.

In the Tonkawa Field, the Pennok Oil Co.'s deep test, No. 7-A Endicott, C NE SW SE, Section 34-25-1w, was still short of the required depth, having been reported drilling at 4,041 feet.

The Marland Refining Co. added another excellent well to the Petit Pool in Osage County. The company's No. 5 Petit, SW cor. NW SW SE, Section 20-23-8, started off at the rate of 120 bbls. an hour from sand at 2,735 feet and when drilled to 2,740 feet increased to 162 bbls. an hour.

Burbank Production

Daily average production in the Burbank Field for the week ended May 14 was as follows by companies:

Company—	Wells.	Bbls.
Carter Oil Co.	178	7,798
Comar Oil Co.	7	268
Cosden Oil & Gas Co.	69	1,614
Devonian Oil Co.	16	340
Gardner Petroleum Co.	20	643
Gypsy Oil Co.	188	11,849
Kewanee Oil & Gas Co.	12	173
Laurel Oil & Gas Co.	16	339
Lorraine Petroleum Co.	15	280
Midland Oil Co.	7	678
Mid-Kansas Oil & Gas Co.	32	1,620
Peters & Oliphant	1	134
Phillips Petroleum Co. and Delmar Oil Co.	16	5,318
Phillips Petroleum Co.	45	5,004
Phillips Petroleum Co. and Skelly Oil Co.	163	7,264
Prairie Oil & Gas Co.	92	1,946
Producers & Refiners Corp.	29	675
Roxana Petroleum Corp.	57	1,110
Simons, Moore and others	29	422
Sinclair Oil & Gas Co.	145	6,170
Skelly Oil Co.	15	1,084
Tidal-Osage Oil Co.	43	978
Twin State Oil Co.	10	274
Total	1,205	55,981
Total last week	1,198	56,663
Difference	7	682
Kay County Extension		
George S. Bole	2	562
Carter Oil Co.	11	2,551
Comar Oil Co.	13	2,120
Cosden Oil & Gas Co.	16	2,585
Gypsy Oil Co.	17	3,978
Laurel Oil & Gas Co.	2	313
Phillips Petroleum Co.	28	6,087
Mid-Kansas Oil & Gas Co.	10	2,336
Prairie Oil & Gas Co.	4	1,135
Pure Oil Co.	5	501
Roxana Petroleum Corp.	6	925
Dye, Tomlinson and others	8	842
Skelly Oil Co. & Phillips Petroleum Co.	18	870
Sinclair Oil & Gas Co.	5	1,511
The Texas Co.	16	2,314
Twin State Oil Co.	14	1,986
Total extension	180	30,926
Total last week	178	34,658
Difference	2	3,732
Total Burbank	1,385	86,907
Total last week	1,376	91,321
Difference	9	4,414

Daily average pipe line runs from the Burbank Field were as follows: Gulf Pipe Line Co., 16,592 bbls.; Cosden Pipe Line Co., 6,401 bbls.; Kay County Gas Co., 8,767 bbls.; Osage Pipe Line Co., 2,401 bbls.; Oklahoma Pipe Line Co., 17,462 bbls.; Prairie Pipe Line Co., 11,233 bbls.; Sinclair Pipe Line Co., 7,681 bbls.; Moore Refining Co., 2,982 bbls.; Empire Pipe Line Co., 135 bbls.; Mid-Kansas Oil & Gas Co., 3,847 bbls.; Magnolia Pipe Line Co., 4,334 bbls.; Twin State Oil Co., 1,986 bbls.; Ozark Pipe Line Co., 3,086 bbls. Total, 86,907 bbls.

This isn't a scene in the oil fields of Poland or Russia, but was taken within sight of the Oil Capital. It shows the picturesque type of derrick in use on some of the wells in the Vern-Bruner area, Tulsa's famous "backyard oil pool," about 5 miles west of the city.

Production in Tonkawa

Daily average production in the Tonkawa Field, by companies for the week ended May 14, was as follows:

Company—	Wells.	Bbls.
Amerada Petroleum Corp.	36	1,806
Blackwell Oil & Gas Co.	31	1,299
Carter Oil Co.	6	132
Champlin Refining Co.	2	83
Champlin Refining Co. and Twin State Oil Co.	1	11
Comar Oil Co.	319	14,449
Cosden Oil & Gas Co. and Marland Refining Co.	16	434
Gypsy Oil Co.	95	4,833
Healdton Oil & Gas Co.	28	1,770
McCaskey & Wentz	45	2,572
McMan Oil & Gas Co.	3	31
Pennok Oil Co.	26	1,774
Phillips Petroleum Co.	4	161
Prairie Oil & Gas Co.	13	832
Sinclair Oil & Gas Co.	1	17
Slick-Comar Oil Co.	31	4,628
Southwestern Petroleum Co.	15	640
The Texas Co.	5	40
White Eagle Oil & Ref. Co.	7	605
Total	684	35,274
Total last week	680	35,403
Difference	4	129

Daily average pipe line runs from the field follow: Kay County Gas Co., 12,246 bbls.; Ozark Pipe Line Co., 9,529 bbls.; Gulf Pipe Line Co., 3,893 bbls.; Champlin Refining Co., 5,854 bbls.; Bolene Refining Co., 736 bbls.; Producers & Refiners Corp., 592 bbls.; Enid Oil & Pipe Line Co., 1,609 bbls.; Oklahoma Pipe Line Co., 132 bbls.; Empire Gas & Fuel Co., 689 bbls. Total 35,274 bbls.

Creek County Activity

In the Depew district of Creek County, the Magnolia Petroleum Co. found 10,125,000 feet of gas in its No. 1 Wattie, SW cor. NE, Section 6-15-7. The Wolverine Oil Co.'s No. 7 Wilson, NE cor. SE SW, Section 8-15-8, topped a sand at 3,748 feet, finding a show of oil and gas at 3,751. There was 300 feet of oil in the hole at 3,763 feet, and the well made two flows of 25 bbls. each at 3,770 feet. The Eastern Oil Co.'s No. 2 Roberts, SW cor. SE NE, Section 17-15-8, made 1,434 bbls. after a shot of 120 quarts in sand at 3,680-3,774 feet. The next day's production was 1,021 bbls. and the third was 962 bbls. The Jomac Oil Co.'s No. 3 Mitchell, NW cor. NE SW, Section 17-15-8, was flowing 70 bbls. from sand at 3,750-3,800 feet. The Prairie Oil & Gas Co.'s No. 2 Mitchell, NE cor. NW SE, same section, made 700 bbls. natural from sand at 3,723-78 feet, and on the fourth day, gauged 557½ bbls. The Pure Oil Co.'s No. 10 Yarhola, SE cor. SW NE, same section, was good for 800 bbls. natural from sand at 3,723-83 feet, and after a shot of 120 quarts made 960 bbls. in 17 hours.

On the Creek County side of the Stroud Pool, the Amerada Petroleum Corp. was rigging up its No. 7 Lewis, NE cor. NW SW, Section 7-14-7. The Waite Phillips Co. was spudding its No. 3 Jack, SE cor. NW NW, same section.

Progress in Cromwell

In the Cromwell Pool of Seminole County, work was progressing as rapidly as ever. The Sinclair Oil & Gas Co. and Transcontinental Oil Co. were spudding their No. 1 Bruner, C SE SW SW, Section 9-10-8. The Catre Oil Co. was building a rig for its No. 1 Brown, C SW NE SW, Section 10-10-8, and the McMan Oil & Gas Co. was moving in tools for its No. 1, C SW SW SE, same section. The Cosden Oil & Gas Co. was also building a rig for its No. 3 Tiger, C NW SW NE, Section 15-10-8, and was spudding No. 4 Willis, C NE SE NW, same section, and No. 2 Yarhola, C NW SW SE, same section. The Gilliland Oil Co. lost the hole in its No. 1 Proctor, C NE SW NE, Section 16-10-8, at 870 feet and was skidding the rig. Holmes & Jarvis deepened their No. 1 Harjo, NE cor. SE

Section 21-10-8, but the production was not helped, and it was cleaning out and swabbing about 35 bbls. from sand at 3,484-3,505 feet.

In Noble County, the 101 Ranch Co. abandoned its No. 1, NE cor. Section 6-22-2e, at dry at 4,585 feet.

Operations in the Osage

In the Osage, the Mutual Oil Co.'s No. 6, CNL NE SE, Section 32-24-8, was drilling at 225 feet, and No. 9, NW cor. NE SE, same section, was drilling at 800 feet. Foster & Norwood were drilling their No. 35, CSL SE NW SE, Section 14-24-9, at 1,135 feet. The Marland Oil Co.'s No. 18, CSL NW NW, Section 26-24-9, was below 930 feet. The Winona Oil Co.'s No. 9, CEL SE, Section 28-24-10, was drilling at 260 feet, and the Plains Petroleum Co. was down 1,100 feet in its No. 12, NW cor. NE, Section 33-24-10.

The Sand Springs Home abandoned its No. 78, CSL SW NE SE, Section 35-22-8, as dry at 2,424 feet.

The Rex Pyramid Oil Co. was spudding its No. 1, SW cor. Section 4-23-10. Fletcher Petroleum Co. and Superior Oil Co. were spudding No. 2, CSL NW NW, Section 20-23-10. Heggem & Davis made a 25-bbl. producer out of their No. 14, CWL SW SW, Section 35-23-10, by means of an 80-quart shot in the Bartlesville sand at 1,737-64 feet. The Tidal-Osage Oil Co. abandoned its No. 20, CWL, SE SE NE, Section 32-22-10, as dry at 2,285 feet, and was building a rig for its No. 39, CWL NW SE NW, Section 34-22-10. The Owen-Osage Gas Co. abandoned its No. 279 (or No. 5) NE cor. SW NW, Section 18-23-11, as dry at 2,192 feet. The same company's No. 288, CNL NW SW SW, Section 9-22-11, was plugged at 2,050 feet. Another failure plugged in this district was T. K. Smith's No. 4, NW cor. NE SE, Section 4-22-12, which was dry at 2,303 feet.

A freakish performance in the second break in the lime was recorded by Breene, McKinney and others' No. 8, SW cor. NW, Section 5-21-11, which flowed 20 bbls. an hour for a couple of days from the pay at 2,214-2-336 feet and then stopped. It was being tubed to pump. The Kewanee Oil & Gas Co.'s No. 3, CNL SE, Section 17-21-12, was dry and abandoned at 1,624 feet. The Winona Oil Co.'s No. 19, CSL SE NW NE, Section 9-20-12, was also dry at 2,092 feet. The Barnsdall Oil Co.'s No. 23, CWL NW, Section 9-20-12, topped the Mississippi lime at 1,780 feet and went to 2,435 feet from which depth it was plugged back to sand at 2,200-20 feet where it made 30 bbls. of oil and 100 bbls. of water.

The Mutual Oil Co. abandoned the location for its No. 2, NW cor. SE, Section 28-20-12, and had a rig on the ground for No. 8 C NW same section.

North of Stroud

About six miles north of the Stroud Field in Lincoln County, the McMan Oil & Gas Co. was running 20-inch casing to 370 feet in its No. 1 Bowers, NE cor. SW, Section 1-15-6, after skidding the rig 12 feet south.

In the Key West area, the Amerada Petroleum Corp. and Wrightsman were rigging up their No. 2 Welch, CSL SE NE SW, Section 1-14-6, Creek County side, and the Roxana Petroleum Corp. was building a rig for its No. 7 Zollers, CSL SW NE SW, same section, a direct west offset. The Waite Phillips Co. and Sinclair Oil & Gas Co. were spudding their No. 1 Brooks, SE cor. NE SE, Section 2-14-6, the farthest northwest test in the field. The Union Petroleum & Supply Co. was building a rig for its No. 6 Townsite, CSL NE NE NW, Section 12-14-6. Willis Oil & Gas Co. and others were drilling at 200 feet in their No. 2, CWL NW NE SW, Section 12-14-6. The Gypsy Oil Co. made a location for its No. 1 Brace, NE cor. NW SW, Section 12-14-6.

In Papoose Country

The Papoose country reported very little news of an encouraging nature although activity continues unabated in that region. The Papoose Oil Co.'s No. 2 Simon provided the most interesting item, making 827 bbls. or nearly double in former production, when a bridge was knocked out. Sand record was 3,349-54 feet. The same company's No. 5 Alexander, C NW SW SE, same section, was drilling at 850 feet, and No. 7 Alexander, C NE SW SE, same section, was drilling at 640 feet. The Berry Petroleum Co.'s No. 3 Alexander, C NW NW SE, same section, was drilling below 550 feet.

The Gilcrease Oil Co.'s No. 2 Brown, C SW SE SW, Section 17-9-9, was drilling at 450 feet. A rig and tools were in place for the Murgay Oil Corp's No. 5 Brown, C SE NW SW, same section, and No. 2 Brown, C NW NW SW, same section, was drilling at 350 feet. The Roxana Petroleum Corp. was drilling its No. 2 Brown, C SW NE SW, same section, at 350 feet. The H. F. Wilcox Oil & Gas Co.'s No. 2 Brown, C SW SW NW, same section, was drilling at 300 feet.

Deeper drilling did not help to restore the Arkansas Fuel Co.'s No. 1 Brown, C SE SE NE, Section 18-9-9, and it was making 107 bbls. of oil and 25 bbls. of water from sand at 3,100-11 feet. The Independent Oil & Gas Co.'s No. 1 Brown, C SE SW NE, Section 18-9-9, was drilling at 300 feet, and the Gilcrease Oil Co.'s No. 2 Simon, C NW NE NW, Section 20-9-9, was drilling at 500 feet.

Burbank Extension

In the northern edge of the Burbank Extension, the Roxana Petroleum Corp. plugged and abandoned its No. 4 Pappan, NW cor. NE, Section 4-27-5, at 1,710 feet, and George S. Bole also abandoned his No. 3 Gaston, CEL SE NE NW, same section, as dry at 3,009 feet. The Laurel Oil & Gas Co. was more fortunate as its No. 2 Mehojah, CEL SE NE SW, same section, which reached the sand at 2,876 feet, found gas at 2,884 feet, a show of oil and gas at 2,890, first flow at 2,896 feet and at total depth of 2,910 feet made 715 bbls. in the first 24 hours. The Phillips Petroleum Co.'s No. 16 Taylor, C NE SW NE, Section 9-27-5, topped the sand at 2,908 feet and was drilled to 2,944 feet, making 300 bbls. natural. It was shot with 10 quarts and the resultant production was 250 bbls. The same company's No. 19 Taylor, C SW NE NW, same section, was good for 750 bbls. natural from sand at 2,941-53 feet, with first oil at 2,946 and first flow three feet deeper. The Skelly Oil Co. was rigging up its No. 1, CNL NE NW SW, Section 9-27-5.

Several old wells in the west half of Section 10-27-5 were jazzed up with shots. The Cosden Oil & Gas Co.'s No. 10 Sands, NE cor. NW, was given 20 quarts in sand at 2,904-24 feet, and made 300 bbls.; No. 13, C NW SE NW, was shot with 25 quarts and made 300 bbls.; No. 15, C SE NW NW, was treated with 25 quarts, and produced 400 bbls. afterward; No. 16, C SW NE NW, was given 20 quarts and made 200 bbls. The Comar Oil Co.'s No. 8 Barnum, C SE NW SW, which produced 30 bbls. natural, from sand topped at 2,963 feet to 3,024 feet, was shot with 20 quarts and made 35 bbls.

On the Osage County side, the Phillips Petroleum Co. and Delmar Oil Co.'s No. 16, C NW SE SE, Section 10-27-5, was a 300-bbl. natural well from sand at 2,984-3,031 feet, with first oil at 2,994 feet. The Phillips Petroleum Co.'s No. 1, SW cor. Section 11-27-5, which was good for 532 bbls. initially, natural from oil sand at 2,999-3,046 feet, was at last accounts making 235 bbls.

Beckham County

In Beckham County, the Foster Investment Co.'s No. 1 Marshall, NE cor. SW NW, Section 32-9-23w, was good for 85 bbls. from sand at 2,910-32 feet. The same company seated the 8-inch casing at 2,211 feet in its No. 2 Marshall, NW cor. SW NW, same section. Prince & Prince completed their No. 2 Knight, SE cor. NW NW, same section, for 17 bbls. from sand at 2,936-75 feet.

In Choctaw County, M. P. Smith and others were deepening their No. 1 Smith, NE cor. Section 2-6s-15e, at 1,100 feet.

In southwestern Washita County, the Sun Ray Oil Co. and Aubyme Oil Co. were building a cable rig for their No. 1, SE cor. Section 33-8n-18w. Across the line in Kiowa County, the same companies had timbers on the ground for No. 1, SW cor. NE, Section 3-7n-17w.

NEW WORK IN OKLAHOMA FIELDS OFFSETS DROP IN BURBANK POOL

By C. D. Lockwood

Activities in the Oklahoma Fields do not reflect any great concern over the market, and the recent flurry of pessimism apparently never got far into the field. New work in both old and new areas continues to go forward with little change of pace, while the Burbank Field steadily drops from its lofty production peak of a couple of months ago, and practically offsets the stream of oil coming from the newer fields.

In the Burbank Field, the Skelly Oil Co. and others were moving in a rig for their No. 1, CNL NE NW SW, Section 9-27-5. The Twin State Oil Co. shot its No. 13 McCassey, CWL SW NW NW, Section 15-27-5, with 50 quarts in sand at 2,985-3,003 feet and it made 200 bbls. afterward. A rig was in place for the Skelly Oil Co.'s No. 8 Riggs, SW cor. NW SE, Section 16-27-5. Another old well treated with nitro was the Phillips Petroleum Co.'s No. 11, C SW NE NW, Section 23-27-5, which was given a 130-quart shot in sand at 2,959-3,011 feet and responded with 200 bbls.

On the northern edge of the extension, the Waite Phillips Co. plugged its No. 1 Joe Cooper, SE cor. SW, Section 34-28-5, as dry at 2,977 feet.

In the older part of the field, several locations on edge leases were being developed and some additional work on tracts lately acquired was also in evidence. The latter included the Twin State Oil Co.'s No. 8, CNL NE NW SW, Section 18-27-6, which was drilling at 640 feet; and several wells on the two tracts owned by the Phillips Petroleum Co. in the NW and SE quarters of Section 20-27-6.

Down in the extreme southern edge of the pool, the Cosden Oil & Gas Co. had a rig up for its No. 14, C NW SE SE, same section, and at 645 feet in its No. 4, SE cor. same section. The Carter Oil Co. was drilling its No. 11, SW cor. Section 16-26-6, at 495 feet. The Phillips Petroleum Co. and Skelly Oil Co. were rigging up their No. 7 CEL NE SE NE, Section 7-26-6.

In northern Kay County, the Comar Oil Co. was rigging up its No. 1 Hallenbeck, NE cor. SW, Section 21-29-1w.

Otstot Pool

In the Otstot Pool, the Otstot Development Co. abandoned its No. 2, NW cor. SE, Section 3-27-1w, as dry at 3,538 feet. The Blackwell Oil & Gas Co. rigged up and shut down its No. 1, SW cor. Section 10-27-1w. Kay & Kiowa were rigging up No. 1 school land, NW cor. SE, Section 16-27-1w.

In the old Garber district of eastern Garfield County, the Charles Knox Oil Co. abandoned its No. 8, C SE NW, Section 36-22-4w, as a failure at 2,380 feet. The Imo Oil & Gas Co. had a rig in place for its No. 9 school land, CWL SW NW, same section. The Sinclair Oil & Gas Co. was fishing at 750 feet in its No. 8 Shaffer, CSL SW SE, Section 18-22-3w, and was spudding its No. 6 Crews, NE cor. SW, Section 30-22-3w.

The Sayre Field of Beckham County has received little encouragement for some time, the only production worthy of mention in recent months having been gas. The Magnolia Petroleum Co. brought in the latest gasser in the field, its No. 2 Hawkins, C SW SW SW, Section 14-9,23w, having been good for 17,000,000 feet of gas from broken sands at 2,620-82 feet.

In Pawnee County, the Prairie Oil & Gas Co.'s No. 3 Donahoe, SW cor. NW SW, Section 15-20-6, an old well, was good for 23 bbls. of oil and 3,000,000 feet of gas from sand at 3,028-77 feet. The Josey Oil Co.'s No. 4, NE cor. SE SE, Section 21-20-6, made 300 bbls. natural from sand at 3,112-33 feet. The same company had a rig on the ground for its No. 1 Peck, NE cor. SW, Section 1-20-6. A rig was up for the Carter Oil Co.'s No. 4, NW cor. NE NE, Section 17-20-6.

Lincoln County Wildcats

Some new wildcats were started in Lincoln County. The Mountain State Oil Co. was spudding its No. 1 Lewis, SW cor. Section 5-13-6. J. C. Cook was also spudding his No. 1 Richards, SW cor. NW SW, Section 8-12-5.

In the Stroud Field, the Roxana Petroleum Corp. was drilling below 100 feet in its No. 2 Brace, NE cor. NW SW, Section 12-14-6, and had a rig in place for its No. 2 Coyarkah, CSL SE SW SW, Section 6-14-7. The Union Petroleum & Supply Co. had a rig up for its No. 5 on Lot 13, Block 13, Section 12-14-6, about the CSL SE NW.

In Okfuskee County, the Western States Oil Co. was fishing at 115 feet in its No. 1, SE cor. NW NE, Section 14-12-8.

A duster was plugged by Blakely at 3,689 feet in No. 1 Pitman, SW cor. SE NW, Section 25-12-10. The Independent Oil & Gas Co. had a rig up for its No. 2 Nivens, NW cor. SE NW, Section 28-12-10, and the Atlantic Oil Producing Co. was building a rig for its No. 1 Fisher, C NW NW SE, Section 36-12-10.

Moffett and others had 2,000,000 feet of gas in their No. 1 Holmes, CWL NW NE, Section 30-11-11, from sand at 565-66 feet. W. B. Pine was drilling at 300 feet in his No. 1 Myers, CSL SE SW, Section 34-12-11, and Henry & Avery were building a rig for their No. 3 Buckley, NE cor. NW SW, Section 12-12-11.

A rig was in place for Robinson and others' No. 1 Hill, SE cor. NW, Section 25-11-9.

A 30,000,000-foot gas sand was uncovered by the Shaffer Oil & Refining Co. and the Independent Oil & Gas Co. in their No. 1 Grayson, C NE SE NW, Section 30-11-10. The depth was 3,160-62 feet.

Tulsa County Operations

In Tulsa County, the Westland Oil Co. had a 25-bbl. well in its No. 2-A Bruner, CNL NW SW, Section 4-19-12, after a 30-quart shot in sand at 1,986-95 feet. Total depth was 2,067 feet. Pennington and others abandoned their No. 5 Hooks, C SE NE NE, Section 33-19-14, as dry at 1,392 feet. May Brothers found small production in their No. 1-A SE cor. SW NW, Section 33-18-14, which was a 10-bbl. well after a 20-quart shot in sand at 1,483-1,528 feet. H. C. Deems also shot his No. 6 Beaver, C SW SE, Section 36-18-14, into the 15-bbl. class, using 20 quarts in sand at 1,326-35 feet.

Just about 6 miles north of Tulsa, McEvoy & Hamilton were moving in a machine for their No. 1 N. Lewis, C NW SW NE, Section 36-21-12. The National Drilling Co. had 3,000,000 feet of gas in its No. 1-A Walker, SE cor. NE NE, Section 36-21-12, from sand at 1,700-20 feet. The U. S. Oil & Gas Co.'s No. 13, C NW SW, Section 9-21-13, was shot with 60 quarts in sand at 1,330-60 feet and made 10 bbls. The same company and others' No. 14 Baker, SW cor. SE SW, same section, made the same amount of oil after a shot of the same size in sand at 1,350-80 feet. Tools were being rigged up also for the same interests' No. 15 Baker, one location to the east of No. 14.

T. L. West was making a lime test out of his No. 1 Sunday, NW cor. SE SE, Section 12-21-13. It topped the lime at

(Continued on Page 119)

California Field Operations

By L. P. Stockman

Developments increasing in San Joaquin Valley. Maricopa shows most activity. Coalinga output shows gain from opening of wells shut in. Several good wells at Torrance. No. 1 Athens at Rosecrans doing 700 bbls. while No. 1 Rosecrans has been cemented for tenth time. Dominguez operators hopeful.

LOS ANGELES, Cal., May 17.—A check of the development work done in the San Joaquin Valley during the past 30 days reveals a much more satisfactory condition and, although there were no wells completed in the Lost Hills, Belridge, McKittrick and Wheeler Ridge Fields, drilling has been on the increase. In the latter area the Standard Oil Co.'s seven producing wells and the General Petroleum's two producers are making approximately 25,000 bbls. a month. The latter company is drilling one well on its Gillian lease, while the Standard is drilling four on property adjoining, one of which, a deep test, has reached a depth of 3,600 feet. Practically all wells capable of producing have been opened up in the McKittrick Field and for this reason the output of this district should be comparatively stable during the balance of the year. The production at McKittrick during April was approximately 5,800 bbls. a day.

The most important well in this vicinty is probably the Union Oil Co.'s No. 1 Wisecarber, on Section 29-30-22, some distance from production. The McKittrick Chief Oil Co. drilled a well on this section a year or so ago, but, since it was only carried to 965 feet, it was never considered a satisfactory test. The Union's Wisecarber well shows 3,180 feet of hole and, since it is the intention to test out the lease thoroughly, it will undoubtedly be carried to extreme depths if necessary. The Jewett Oil Co., on Section 13-30-21 has passed the 500-foot level with its well No. 16, while the Jantha Producing Co. is making hole in its No. 4 well, on Section 6-30 22, around 800 feet. The Cymeric Oil Co., on Section 26-29-21, is making good headway with its well No. 3 now drilling at 1,610 feet, while the Atlantic-Pacific Oil Co., drilling on Section 20-30-32, is approaching the 2,400-foot level.

In the Lost Hills-Belridge area there is still a little over 5,000 bbls. a day shut in, the greater majority of which is General Petroleum oil. There are also a good many suspended drillers upon which work has not been resumed, but it is believed that within a short time many will be successfully completed or abandoned as dusters.

Maricopa Most Active

New development work at Kern River has been rather slow in getting under way but, judging by the several changes in leases, this field will receive its quota of drilling. The output during April should run around 19,000 bbls. a day, slightly less than the normal production. The only new well started during the past month in this district was No. 1-BB of the Kern River Oil Fields, Ltd., on Section 33-28-28. The Maricopa Field has responded very nicely to the better prices for heavy oil and shows more development work than any other field in the San Joaquin Valley, except Midway, a larger field. There were more wells finished in the former field than in any other district in this vicinity and, although none was large, they are commercially profitable because of the shallow depth. The General Petroleum Co. is doing a large amount of development work on its various properties in this field and easily carried off the completion honors by bringing in four new wells, one, the largest finished during the month. The company's record well was No. 4 Alpine, on Section 36-32-23, which was good for 120 bbls. of 15 gravity oil from 995 feet. This is the third producer which the company has on this lease, but No. 3 at 950 feet and No. 6 at 510 feet should be early completions. A rig has been erected for No. 5 and it is understood two more locations are to be staked within two weeks. On its Sunset lease, Section 18-11-23, the General Petroleum Co. put three wells on production, started another, No. 11-A, which shows 705 feet of hole and erected a rig for still another. No. 2-B, finished at 830 feet, No. 3-B brought in from 850 feet and No. 7, completed at 740 feet, were the company's three new wells all listed as 15-bbl. pumpers of 13 gravity oil. Two new rigs, Nos. 1-A and 2-A, on Section 20-11-23, were erected and the former spudded in within the last week or 10 days. Two new rigs, Nos. 171 and 181, on Section 34-12-24, were also erected and these, together with No. 106-A, on Section 19-11-23, should be spudded in and making hole within two weeks.

Increasing Development

The Associated Oil Co. is increasing its development work on Section 17-11-23 and the one producing well the company has on this lease should be augmented within a short time by the completion of one or more of the six drilling wells. The company's No. 23 at 411 feet, No. 33 at 880 feet, No. 42-F at 1,020 feet, No. 53-F at 1,030 feet are all progressing nicely and as soon as the crews finish these wells will probably be transferred to Nos. 2, 3-A and 32, rigs for which have been erected. On the adjoining section, 18-11-23, the Associated completed a 25-bbl. pumper, No. 41, from 850 feet, and directed its activities on Nos. 51 and 61, which should be brought in during the next few weeks. The Berry Holding Co. finished No. 25 on Section 34-12-24 and immediately started operations on No. 28, which shows 420 feet of hole. The company's successful completion was No. 25, pumping 90 bbls. of 14 gravity oil from 906 feet. Rigs for Nos. 24 and 31 on the same section have been completed and one of them will probably be spudded in immediately and the other held up until the completion of the present drilling well, No. 28. Berry & Ewing finished No. 16 on Section 31-32-24 as an 85-bbl. pumper from 1,128 feet and immediately spudded in Nos. 6 and 7. The latter two, barring unforseeen delays, will be put on production during the coming month. The Formax Oil Co., Section 36-32-23, put No. 15 on the beam after drilling it to 998 feet but only secured a 10-bbl. pumper of 15 gravity oil. This well was somewhat of a disappointment and leaves some doubht as to the company's future policy. A substantial production has been developed, however, and additional work is anticipated. The Calavada Oil Co. finished its well No. 2, on Section 7-11-23, as a 10-bbl. pumper from 1,830 feet, but, since this lease is only productive of small wells, the outcome was not surprising. The company's well No. 1, on Section 34-32-24 shows 2,460 feet of hole and drilling is going ahead rapidly. The United Midway Oil Co. is drilling in a tough blue shale at 4,380 feet on Section 10-11-23, with conditions not too encouraging. The Pliocene Oil Co. erected two rigs for Nos. 1 and 2, on Section 18-11-23 and made 613 feet of hole in the former.

Midway Production Up

The production of crude in the Midway Field during April should average around 83,000 bbls., an increase of approximately 5,000 bbls. a day over the average during March. There were two new wells finished during the past month and several new holes started. The Honolulu Oil Consolidated completed a 300-bbl. well, No. 78, on Section 8-32-24, after drilling it to 3,032 feet and will undoubtedly resume operations on No. 9 suspended at 3,020 feet and spud in No. 12, rig for which was erected some time ago. The Honolulu is doing considerable development work and has built up a substantial production, the majority coming from a government lease on Section 6-32-24.

This latter property was recently brought to the attention of the Public Lands Committee following a report of E. C. Finney, assistant secretary of Interior, that he was unable to find in the department's files any record that Ex-Secretary of Interior, Albert B. Fall, had obtained the approval of the late President Harding to lease this section to the Honolulu Oil Co. The Honolulu was involved in litigation for several years, during which time all money received was impounded until a court decree in 1922 released it. The Honolulu contested the Government's authority to withdraw this property, located in the Naval Reserve, but later compromised by relinquishing all its rights and taking a lease from the Government. It is not known just what action will be taken by the Federal Government but it is safe to say that if the legality of the lease is contested the Honolulu will again question the authority of the original withdrawal of this lease in the Naval Reserves. The company has apparently acted in good faith and the legality of the lease is of vital importance because it has a direct bearing on several other similar transactions in California Naval Reserves.

The Brookshire Oil Co. finished its well No. 11 on Section 24-31-22 during the early part of last week and was successful in securing a 175-bbl. pumper of 21.2 gravity oil from 2,532 feet. The Victor Oil Co. has reached a depth of 1,510 feet in its well No. 10 on Section 35-32-23 and this well, together with the Associated Oil Co.'s Nos. 41 and 61, on Section 22-31-23 should be early completions. It has been expected that the Southwestern Petroleum Co. would put its well No. 4, Section 2-31-22, on production a week or two ago, but it has been unavoidably delayed. The Midland Fields (California Petroleum) has its No. 6 on Section 24-31-23 down over 3,400 feet and its completion within two weeks will permit the spudding in of Nos. 7 and 8 on the same section, waiting for crews. The company should also finish well No. 2 on Section 34-31-24 and either well No. 3 or No. 4 will be spudded in.

Chanslor and Pacific Busy

The Chanslor-Canfield Midway Oil Co. (Santa Fe Railroad) and the Pacific Oil Co. (Southern Pacific Railroad interests) are doing the largest amount of individual work, the former being credited with eight strings of tools in active operation and the later with 19. Most of the Chanslor-Canfield Midway Oil Co.'s development work is being done on Section 25-31-22, where five wells are being drilled, and on Section 9-32-23, where two strings are in operation. The Pacific Oil Co.'s drilling program covers several properties, although Section 31-31-24 with four active drillers and six additional rigs standing, is probably most favored. Three holes are being put down on Section 25-31-23, three on Section 15-32-24, two on Section 1-32-23, two on Section 5-32-24, two on Section 3-32-24. The North American Consolidated is making good progress with the two wells being drilled, No. 4 at 3,350 feet and No. 6 at 3,400 feet on a Government lease in Section

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination kind of cargo and amount in barrels:

La Brea, May 6, Philadelphia, refined	68,557
Agwihavre, May 6, New York, crude	92,449
Cape Ann, May 7, New York, crude	70,910
Hampton Roads, May 9, New York, crude	67,026
Clement Smith, May 9, New York, crude	76,232
D. G. Scofield, May 9, New York, crude	77,656
K. R. Kingsbury, May 10, New York, crude	81,857
Hagood, May 11, Boston, crude	74,050
Acme, May 11, New York, crude	73,838
Coastwise	
Atlas, May 5, Eureka, refined	11,940
Tejon, May 5, Seattle, fuel	70,490
Richmond, May 6, Seattle, fuel	61,471
U. S. Tanker Cuyama, May 6, San Diego, fuel	54,376
J. A. Moffett, May 6, Richmond, crude	60,713
Wm. F. Herrin, May 6, Avon, crude	48,180
Lubrico, May 7, Richmond, crude	74,397
Utacarbon, May 7, Martinez, crude	72,482
J. A. Moffett, May 9, Richmond, crude	64,177
Mojave, May 9, Portland, crude	71,912
W. S. Miller, May 10, Richmond, crude	70,905
Lubrico, May 10, Willbridge, fuel	74,081
Exports	
Calgarolite (Br.), May 5, Chile, fuel	70,111
Shabonee (Br.), May 6, China, refined	41,862
Meton, May 7, Manila, fuel	76,847
San Fabian (Br.), May 7, Tampico, crude	119,041
Paul Shoup, May 8, Buenos Aires, fuel	61,789
San Leon (Br.), May 10, Valparaiso, fuel	58,416
La Placentia, May 10, Honolulu, fuel	60,140
Scottish Strath (Br.) May 11, China, refined	66,111
From Port San Luis	
Montebello, May 6, Chile, fuel	70,820
Coalinga, May 7, Oleum, fuel	71,142
Oleum, May 8, Oleum, fuel	33,480
From San Francisco	
China Arrow, May 3, Japan, refined	82,411
Col. E. L. Drake, May 4, Hilo refined	32,280
Westwego, May 5, London, refined	49,110
W. S. Porter, May 5, Seattle, fuel	52,409
Kewanee, May 5, Linnton, refined	28,126
Salina, May 9, Honolulu, fuel	78,140
El Segundo, May 10, Portland, refined	29,354
Warwick, May 10, Seattle, refined	32,177
Charlie Watson, May 10, Seattle, refined	12,172
S. C. T. Dodd, May 10, Seattle, refined	76,504
Pearl Shell, May 11, China, refined	59,608
Scottish Maiden, May 12, England, refined	53,761

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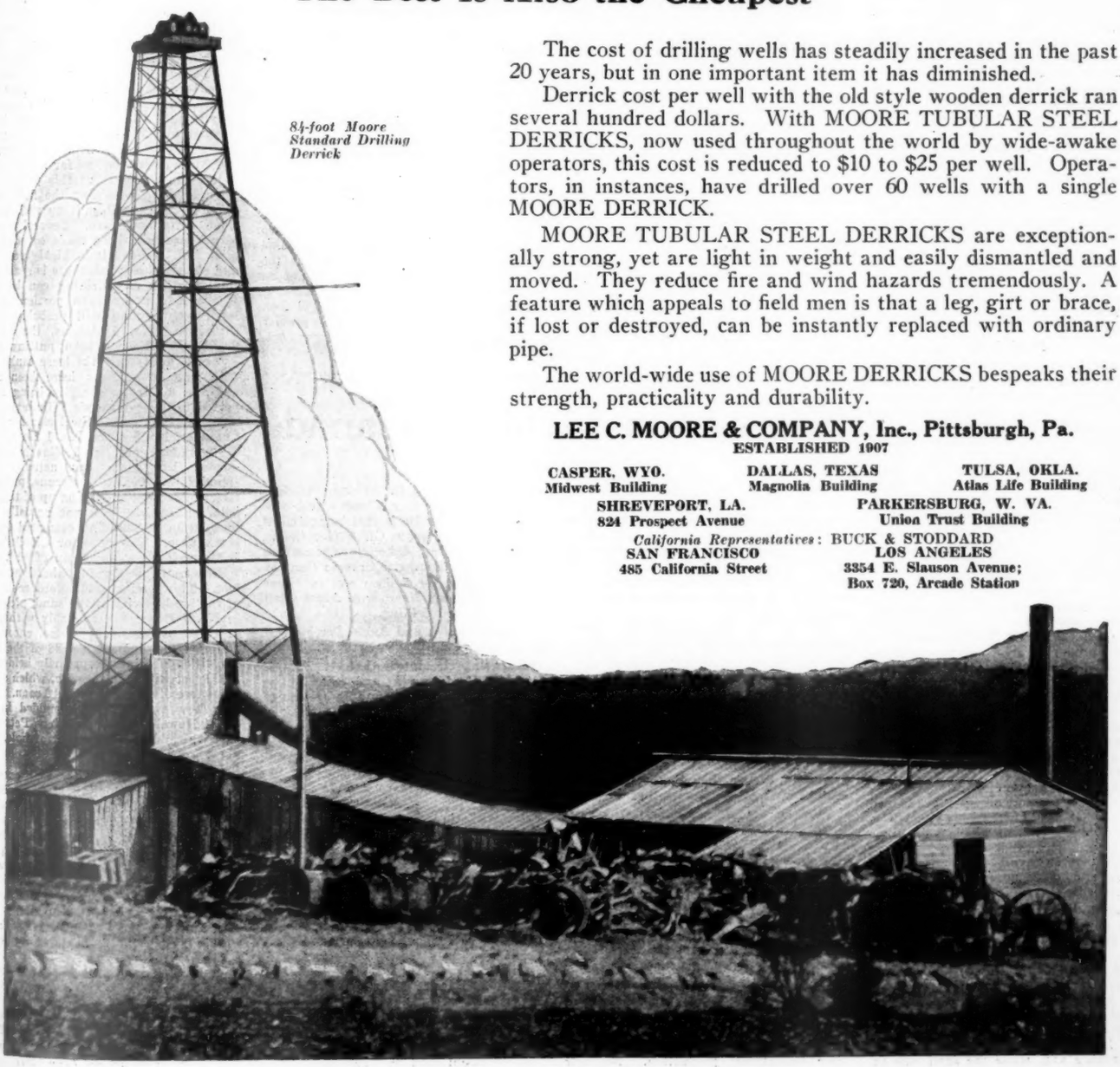

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30-31-24 and will probably spud in No. 7 shortly after completion, as a rig for this new well was erected a few weeks ago. There were only one or two new wells spudded in at Elk Hills during the past two or three weeks but there were three producers brought in all standing to the credit of the Pacific Oil Co. Two, Nos. 55 and 59, were on Section 27-30-24 and one, No. 102, was on Section 35-30-24. Number 55, finished at 3,330 feet was good for 450 bbls. of 17.5 gravity oil, while No. 59, brought in from 3,420 feet, was good for 275 bbls. of 17.6 gravity oil. No. 102 on Section 35-30-24, which registered an initial output of 230 bbls. from 3,070 feet, will probably be followed very shortly by No. 101, now making hole at 3,040 feet. In addition to these two wells, the Pacific is drilling five other holes and has erected rigs for seven others on this section. The Pan American did not start any new work but is putting the finishing touches on No. 18 on lease A in Section 6-31-25, No. 3 on lease C in Section 6-31-25 and No. 8 on lease F in Section 1-21-24. The Standard Oil Co. has not resumed drilling in this district and its is not known just how soon active work will commence.

Production at Coalinga averaged about 36,000 bbls. a day during April, an increase of approximately 6,000 bbls. daily over March output. This gain was due principally to the opening up by the Shell and Pacific Oil Cos. of many wells shut in. Recent developments indicate the field's output during May will show further gains. The Coalinga Empire Oil Co. spudded in No. 6 on Section 6-21-15 early in the month and made 2,620 feet of hole. The West Coalinga Oil & Development Co. is making very slow progress with Nos. 3 and 4 on Section 6-21-15 and it will probably be some little time before they are put on production. The Snowolene Oil Co.'s test on Jacolitos Dome, Section 22-21-15, is still experiencing difficulty securing water and only a limited amount of work has been accomplished. The Premier Oil Co., operating on Section 24-20-14, has No. 27 down over 1,650 feet and is rigging up No. 25 and making preparations to erect a derrick for No. 24.

Dominguez

The past week saw the entrance of another company into the Dominguez Field and, while the land to be developed looks quite doubtful at present in view of the limited amount of work done, only the bit can tell the final story. The Marland Oil Co. is the latest concern to enter this new field and is building a rig to be known as No. 4 Dominguez. With the exception of the General Petroleum, Shell and Union Cos., none of the several operators has had any luck developing production and the well of the Marland is as wild as any drilled by the many unsuccessful companies. There have been no holes put down in the immediate vicinity of the Marland's lease so this company may spring a surprise. The Chase Oil Co.'s well No. 1, west of the present producing area, has been mudded up and the machinery moved out. This test, 5,087 feet deep, together with Davis & McMillan's No. 8 at 5,211 feet, has been indefinitely suspended and will probably remain idle for a long time, or at least until such time as something develops to warrant additional work. The Fresno Petroleum's No. 1 at 4,811 feet, which has been standing idle for some time, is also practically an abandoned hole. C. C. Julian carried his No. 1 Pico down to 4,862 feet, at which depth some drill pipe, a drill collar and bit were lost. Several months have been spent so far in fishing and, since no showing was ever reported, he may quit at any time.

The Shell Oil Co.'s No. 1 Childs, the most important hole in the field at present, is still in an unsatisfactory condition. The ten-inch has gone bad at 3,552 feet and it looks as though it will be several weeks before anything definite will be learned regarding the showing found at 3,884 feet. No. 1 Hellman, another outpost well, has passed the 4,700-foot level without showing anything of importance and, while the sand was expected to be picked up a little deeper than usual, something should develop shortly if a commercial producer is to be secured. Iron has been found in No. 2 Reyes, which blew out several weeks ago, and this hole, which has been cleaned out to 3,600 feet, may yet prove a loss as the result of the terrific gas pressure. The Shell has five other wells drilling on this lease varying in depths from 1,200 feet to 3,800 feet. The Union's No. 2 Callender, the best producing well in the field, is still holding up remarkably well. The average during the past week was 3,300 bbls. a day. Three other wells are drilling on this lease, No. 4 (which will have to be carried to 4,800 feet) at 4,200 feet, No. 5 at 2,600 feet and No. 6 at 2,500 feet. No. 2 Carson, a new well, was spudded and showed 990 feet of hole at the close of the week. No. 1 Gardena, drilling west of General Petroleum leases in the northern part of the field, has passed 5,693 feet without picking up a sand and, barring accidents, will be carried on down for a deep test.

Torrance

There were several good wells brought in at Torrance during the past week, the Standard Oil Co. finishing three, Chanslor-Canfield Midway Oil Co. two, Petroleum Securities Co. two, Shell Oil Co. two and the Superior Oil Co. two. The Petroleum Securities led in the amount of new production added with 1,510 bbls., followed by the Chanslor-Canfield Midway Oil Co. with 1,440 bbls., and the Superior Oil Co. with 1,295 bbls. The production from the Standard Oil Co.'s three new wells totaled 850 bbls. and the output of the Shell's two successful completions aggregated 665 bbls. The largest producer stands to the credit of the Chanslor-Canfield Midway Oil Co., No. 55 Torrance, doing 1,100 bbls. daily from 3,725 feet. It is flowing through a seven-eighths-inch bean under a pressure of 600 pounds, the oil being exceptionally clean and testing 20.1 degrees. No. 43 Torrance, on the same lease, was a much smaller well, producing only 340 bbls. a day but the oil was just as clean. The production, coming from 3,800 feet, tests 20.2 degrees. This company has not curtailed its drilling program to any extent and is still running about 25 strings of tools. Most work is being done in the Lomita section on the flush Torrance and Kettler leases, while the Del Amo and Redondo properties, productive of smaller wells, are being held for future development.

Both the Petroleum Securities' two new wells were good completions, both as to quantity and quality of oil produced. The company's first successful completion was No. 22 Marble listed as a 940-bbl. well from 3,785 feet, followed by No. 19 on the same lease, which made 570 bbls. during the first full day's production from 3,678 feet. Both are flowing through three-quarter-inch bean, the former under a pressure of 365 pounds and the latter 330 pounds. The oil from No. 22 Marble is clean and tests 25.6 degrees, while the output from No. 19 tests 25.2 degrees and shows a cut of one-half of 1 per cent. This company also finished No. 18 at 3,735 feet and is scheduled to begin bailing within a day or two. On the Steinhelber lease, the Superior Oil Co. succeeded in putting Nos. 23 and 25 on production. The former, drilled to 3,830 feet, was the largest and is credited with an initial flow of 845 bbls. No. 25, brought in from 3,833 feet, was good for 450 bbls. The oil from each tests approximately 19.4 degrees and shows a cut of 1 per cent.

Encounters Water Trouble

The Standard Oil Co. experienced a rather unsatisfactory week, notwithstanding three new wells were put on production. Two of the company's latest producers were on the Interstate lease and one on the Marble lease, but all three were troubled with water. No. 5 Interstate, drilled to 3,875 feet, made 300 bbls. of fluid during the first day but the output was very unsatisfactory because of the large water content, 30 per cent. Well No. 6 on the same lease was also a disappointment as the initial production of 320 bbls. from 3,870 feet was cutting 10 per cent water. Well No. 4 on the company's Marble lease was the last of the Standard's wells to be put on production and its output was also of an inferior grade. Drilled to 3,840 feet, it came in making 230 bbls. of 16 gravity oil, which registered a cut of 5 per cent. The Shell Oil Co.'s operations on the Kettler lease resulted in the completion of two wells, Nos. 6 and 8. They were both finished at the same depth, 3,800 feet but the latter made 465 bbls. of 20.1 gravity oil, compared with the former's 200 bbls. of 19.8 gravity oil. The Federal Drilling Co., after several weeks' preparation, finally completed No. 1 Barrow and when put on the pump it made 140 bbls. of 17.1 gravity oil from 3,750 feet. George F. Getty, who has not been having so good luck at Torrance as he experienced at Santa Fe Springs and Long Beach, completed one of his best wells by bringing in No. 22 as a 400-bbl. producer of clean 21.5 gravity oil. The next completion to be recorded at Torrance will probably be Tappen & McAdams' well No. 1, which looks like a 300-bbl. well from 3,812 feet. Both McMahon's No. 2 at 3,792 feet and the Petroleum Midway Co.'s No. 1 Barrown at 3,750 feet will probably have to be put on the beam as neither looked like they would result in a natural flow. McKenzie & Morton, who have been having considerable difficulty with their well No. 1 at 3,775 feet, and the Mohawk Oil Co. whose No. 1 Crowell at 3,873 feet would not flow, should appear on the completion list during the next few days.

Rosecrans

There have been no recent important developments in the new Rosecrans Field, except the usual rush for leases incident to the opening of a new field. Land north and northwest of the discovery well has been moving quite rapidly, the best lease secured by one of the larger companies being on the basis of a one-sixth royalty and $3,000 an acre cash bonus. Smaller pieces, one acre and less, nearer the well, are being held at the rate of $20,000 an acre, but so far no one seems to care to purchase at this price. The town lot area adjoining the field to the north is fairly well built up with houses, some quite expensive. Several community leases have been made covering this area, but, because it is highly restricted and the titles clouded, there is some question whether any drilling can be done. If the field underlies a portion of this land, court action will probably be resorted to. No. 1 Athens, the Union's discovery well, has been putting about 700 bbls. a day into the lease tanks. No pipe line connections have been made and the oil is temporarily being transported to the company's Wilmington Refinery by tank cars. Steel rigs for No. 1 Chandler, No. 1 Gray, No. 1 Hersey, No. 1 Paddleford and No. 1 Zins have been erected but none has actually been spudded in. No. 1 Rosecrans, primarily responsible for the opening up of this new field, although it has not actually been brought in, is standing cemented for the tenth time. The Superior Oil Co.'s No. 1 Maxwell Community, an offset to No. 1 Rosecrans, is drilling ahead at 3,745 feet. This well should afford some idea of the productivity of the sand, picked up in No. 1 Rosecrans, probably within two or three weeks unless it, too, encounters water trouble. Well No. 23 of the U. S. Royalties is being temporarily held up at 3,600 feet with a fishing job, which should be successfully completed soon. The only new well actually spudded in was No. 1 Rowell of the St. Helens Petroleum Co., which shows 1,800 feet of hole.

Long Beach

The past week saw several excellent wells put on production at Long Beach, the largest, the Pan-American Petroleum Co.'s No. 1 Chainey, which came in doing 1,650 bbls. a day. It was drilled to 4,949 feet and finished with a 6¼-inch oil string landed on bottom. The oil, which is of a high grade, testing 30.2 degrees, is flowing through a one-inch bean under a pressure of 600 pounds. The San Martinez Oil Co.'s No. 2 Booth was also a good well, the initial daily output being a little better than 1,500 bbls. This well, drilled to 5,054 feet and finished with a 4¼-inch oil string, was slightly deeper than No. 1 Chainey but the quality of oil was not as good. The output, which tests 24.8 degrees, started off cutting 15 per cent but it has since cleaned

(Continued on Page 120)

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., May 17.—In the Ontario fields, two more deep tests of the Trenton limestone in the southern part of Kent County have ended in failures to extend the productive area, supposed to have been opened up by the drilling of the Glenwood Natural Gas Co. producer on the Hugh Shanks farm in Romney last fall.

East of the Glenwood-Shanks, Union Natural Gas Co.'s No. 248 on the Truckenbrod farm, a half mile east of Port Alma finished at 3,770 feet depth, just off the granite. No commercial production was secured, but salt water was struck in large quantities, which rose to a height of 3,500 feet. The casing will be pulled and the well plugged. The Trenton limestone at this point was somewhat deeper than in the Glenwood-Shanks well, 3½ miles farther west.

To the north of the Glenwood Shanks the Eugene Coste & Co. No. 6 on the Malott farm, Tilbury East Township, about 2 miles south of Tilbury, was completed at 3,588-foot depth when about 15 feet from the granite, without a show. The hole filled with salt water to a height of about 2,400 feet. The casing has been pulled and the hole plugged.

The results of these tests would seem to limit pretty well the possibilities of extending the producing area for any great distance from the Glenwood-Shanks; particularly since a previous deep test by Eugene Coste & Co. farther west in Romney Township failed to secure commercial production. No new deep tests have been located in Kent County, and the only Trenton test still unfinished in Ontario is that being drilled by the High Pressure Oil & Gas Co. at Rock Glen, near Arkona, in Lambton County. The Southern Ontario Gas Co. has a location for a deep test in Essex County, between Harrow & Arner: but has not started drilling.

Royal Dutch and Anglo Persian

In the Canadian West, reports are again being circulated that the Royal Dutch-Shell interests and the Anglo-Persian Oil Co. have definitely decided to undertake extensive development work in Alberta this year. Some years ago the Shell Transport & Trading Co. endeavored to secure from the Dominion Government an exclusive concession covering an extensive area in northern Alberta and the northwest territories; but the negotiations fell through. Later the Anglo-Persian Oil Co. endeavored to secure a somewhat similar concession in northern British Columbia from the Government of that Province. The big English companies are apparently reluctant to enter the field on the terms prescribed by the Dominion leasing regulations; but insist on large acreage and exclusive drilling rights over an extensive territory.

The present arrangements, according to the report, are being made with the Hudson Bay Co. and the Canadian Pacific Railway, both of which control extensive areas in the Canadian West. Some time ago Imperial Oil, Ltd., was

(Continued on Page 98)

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS

JAMES O'NEILL BRUEN

PRODUCERS OF CRUDE PETROLEUM

GEORGE R. RIGDON — GEORGE H. BRUEN — OFFICE: GENERAL MANAGER — GRACE O'NEILL RIGDON — JENNIE O'NEILL BRUEN

KANSAS CITY, MO.

October 12th, 1923.

Mr. A. H. Black,
Black, Sivalls & Bryson,
Independence, Kansas.

Dear Mr. Black:-

It might be of interest to you to know how thoroughly your Perfection Vapor Proof tanks actually hold production and eliminate evaporation losses.

On our ranch property near Sedan we had a shut-off on tank #19379 on July 31st. It was refilled on August 1st and 2nd and "topped off" on August 3rd at 8 ft. and 1 in.

It stood there full throughout the hot, sizzling days of August, and was finally turned on by the pipe line company on September 8th.

Under these weather conditions with our old, wooden tanks we would have lost at least 20 inches shrinkage by evaporation, and this tank was turned on by the gauger on September 8th, AND GAUGED BY HIM 8 FEET AND 1 INCH.

On our Hogshooter properties these tanks raised our gravity from 3½ to 4 degrees.

With best personal wishes.

Yours very truly,

JO'NB/A James O'Neill Bruen

"They Hold Production and Eliminate Evaporation Loss"

Hot, sizzling August sunshine had not the slightest effect on high gravity Kansas crude stored in a Perfection Vapor Pressure tank, according to James O'Neill Bruen, Sedan producer.

On August 3, the date the tank was filled, it gauged 8 feet, 1 inch; on September 8 it measured exactly the same. Evaporation had been routed completely.

But listen further to Mr. Bruen's testimony:

"Under these weather conditions with our old wooden tanks we would have lost at least 20 inches shrinkage by evaporation."

Mr. Bruen did not estimate in dollars and cents the saving, but we will gamble he will admit the tank paid for itself before the summer was over.

In any case you can't afford to ignore this sort of testimony. In order to get the biggest possible returns from your lease, you must save every bit of your crude.

And Perfection Vapor Pressure Tanks are admittedly the best guardians against evaporation. It will pay you to see our branch representative in your field today.

Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

North-Central Texas Field

By Dan F. Dugan

Sun Oil Co.'s No. 4 Stoker, Stephens County, makes 720 bbls. Mid-Kansas Oil & Gas Co.'s No. 1 Lowe, Caddo Pool, semi-completion showing 1,900 bbls. Panhandle Oil & Refining Co.'s No. 3 Jackson, Wichita County, estimated 700 bbls. Texas Pacific Coal & Oil Co.'s No. 9 Robinson, showing for 350 bbls.

FORT WORTH, Tex., May 19.—During the past seven days the North Central Texas Field made a gain of 2,405 bbls. daily compared with the previous week's production report. Stephens County increased 1,365 bbls. Burkburnett was second with a gain of 790 bbls., and the wildcat districts increased their previous week's showing 630 bbls. daily. The Iowa Park district lost 455 bbls. daily which is charged to the small initial production from the late completions in Archer County. In Stephens County the Sun Oil Co.'s No. 4 Stoker is credited with 720 bbls. daily and Little and others' No. 4 Drake 200 bbls. The Donnelly Brothers' No. 1 Brooks in Shackelford County is showing 700 bbls. daily from a depth of 3,580 feet. It is generally rumored that there is to be a let up in field activities in the semi-shallow producing districts of the North Texas Field, particularly Wichita and Archer Counties. There may be a slight let up in wildcat development but the proven producing districts will continue to be drilled as fast as line producers are completed. The concensus of opinion seems to be that production in Archer County has about reached its peak with the present producing pools clearly defined and a large majority of the wildcat tests proving disappointments.

The reported purchase of a large amount of New Navy gasoline for export has helped to stop a decidedly bearish condition in the crude and refined markets of North Central Texas.

Two sales of leases in Archer County were reported. Featherstone & Ray purchased a half interest in the holdings of the Interstate Refining Co., which consisted of 128 acres in the northeast quarter of Section 30, A. R. Nichols land. It is reported that the consideration was $100,000.

The McCarty Oil Co. sold 25 acres to the United Central Corp. for a cash consideration of $27,500. The deal includes 25 acres out of the south of the east 50 acres of the north 100 acres in the J. O'Reilly survey. The same parties also sold the Humble Oil & Refining Co. a tract of 40 acres south of the above land on which a derrick is being erected for a test at once, for a consideration of $38,000.

Stephens County Revival

There is a general renewal of field activities in this section of the deep lime producing field. During the week around 1,000 bbls. initial were added to the county's daily production with the Sun Oil Co.'s No. 4 Stoker leading the list with 720 bbls. at 3,260 feet. A semi-completion of importance is reported from Breckenridge in the Caddo Pool. The new producer is the Mid-Kansas Oil & Gas Co.'s No. 1 Lowe. It started off at 80 bbls. an hour, or better than 1,900 bbls. a day, from the gray lime at 3,191-3,290 feet. The test is inside the Crittenton & Lacey production, which recently extended the pool to the northeast.

Another test of importance is reported from Strawn, Palo Pinto County. The Texas Pacific Coal & Oil Co.'s No. 9 Robinson at 1,508 feet is showing 350 bbls. with gas pressure sufficient to shoot the oil over the derrick. The new well is the fourth producer brought in within a radius of a quarter mile, and the third producer since the first of 1924.

Eastland County Quiet

There were no happenings of especial interest reported from Eastland County during the week, except possibly the semi-completion of Williamson Brothers' No. 1 Fox, 7 miles southeast of Eastland, which struck the pay at 1,172 feet and was drilled only a few feet. It is making 300 bbls. daily. This well is 1 mile east of the Gray-Hightower Pool being developed by the Panhandle Oil & Refining Co. and The Texas Co.

Shackelford County Well

Donnelly Brothers' No. 1 Brooks, a completion at 3,584 feet, has been drilled but 20 feet in the sand, and is making 700 bbls. daily. This well is in the southeast corner of the southwest quarter of Survey No. 55, in the Ibex Field. A location has been made west of the well and the Donnelly Brothers are to start drilling at once. The Prairie Pipe Line Co. is running the oil.

The Lynch well, drilled by the Landreth Oil Co., brought in a few days ago on Survey No. 26, is making 275 bbls. The Humble Oil & Refining Co. is building a rig on the M. I. Miles lease, an offset test to the Landreth-Lynch well. The Lone Star Gas Co. is rushing the erection of its gas plant to take care of the Landreth Production Co.'s gas. The company also is building residences for its employes.

Archer County Activity

This section of the North Texas Field continued to show 100 per cent activity during the week. A total of 30 completions was reported, 21 producers ranging in intial production from 30 to 200 bbls. daily and nine tests disappointments. The largest completion was Ramming and others' No. 3 Wilson on the Geraldine Townsite Pool for 200 bbls. at 1,585 feet. Late field reports credit several near completed wells with showings above the average initial production; Ramming and others' No. 4 Wilson, Block 31, is showing 550 bbls. at 1,580 feet; Murchison and others' No. 1 White, 250 bbls. at 1,590 feet; Parks and others' No. 2 Wilson, 225 bbls. at 1,580 feet; Sun Oil Co.'s No. 1 Ambercrombie, 275 bbls. at 1,410 feet; Verschoyle and others' No. 1, 425 bbls. at 1,580 feet.

The McCarty Oil Co.'s No. 1 Wilson, Hall survey, 3 miles south of Holliday, produced by actual gauge 200 bbls. during the first 24 hours on the pump. Engine trouble developed and it was necessary to shut down.

Pumping 100 bbls. from sand at 1,720 feet, the Panhandle Oil & Refining Co.'s No. 7 Ferguson, Block 29, in the west extension of the Freeman-Hampton Pool is showing 100 bbls. at 1,721 feet.

Swabbing and flowing at the rate of 750 bbls. daily, making it one of the best semi-completions reported from Archer County during the month, the Saratoga Oil Co.'s No. 3 Wilson is producing from sand at 1,580 feet. The well is in Lot 12, Block 27, L. F. Wilson lands. The land had been penetrated only a few feet when oil began to rise in the hole. The Saratoga Oil Co. is composed of R. E. Moore, B. A. Duffy, F. M. Tollett, H. L. Graham and Dr. W. A. Goolsbee.

Boehler and others' No. 1 Farmer, which is in absolute wildcat territory, encountered a sand at a depth of 1,260 feet, which after being cored into 6 feet, showed rich in oil. Casing has been set and the test will be bailed during the week. In the event of a commercial producer at this point it is expected other tests will be started at once, as several big producing companies have secured protection on the adjacent tracts.

The Texas Co. has standardized No. 1 Orton, Section 2, S. P. R. R. survey, about 2 miles north and west of Holiday and will drill in during the next few days. The top of the pay was picked up at 1,588 feet and when penetrated 2 feet oil rose in the hole in the neighborhood of 800 feet.

Greene & Flowers set casing and will test a sand picked up at 1,389 feet in No. 3 Ambercrombie, offsetting the discovery well in Block 45.

What looks like the linking up of the territory between the Comac and the Flowers districts is the showing made in the Archer-Bell Oil Corp.'s No. 1 Robertson, Lewellyn survey. This test picked up a sand at approximately 1,425 feet, barely scratched when oil rose in the hole several feet. The well is being standardized to drill in.

Holmes and others' No. 1 Wilson in Section 123, Hutchinson land, A. T. N. C. L. survey, about 3 miles north of Archer City, tested a sand encountered at 1,188 feet and it showed salt water. Casing was pulled and drilling resumed and the test is now drilling below 1,230 feet.

The Wichita Pipe Line Co. put its 6-inch pipe line to North Wichita Falls and Iowa Park into operation during the week giving Archer County a total pipe line capacity of over 36,000 bbls. with the promise of another new line, projected by the Prairie Pipe Line Co. from its Burkburnett leases. The contract for ditching for this new line is reported to have been signed but the report could not be verified.

The oil well supply houses are opening up stores at Olney and stock is being moved in. The new firms are the Producers Supply Co. and the Oil Well Salvage Supply Co.

Wichita County Work

Activities in Wichita County are confined to its southern section principally in the Murphy's corner district and the old K-M-A territory. The largest initial producer so far in the neighborhood of Murphy's corner according to late field reports is the Panhandle Oil & Refining Co.'s No. 3 Jackson, Block 23, Denton County School Lands, on the Wichita-Archer County line, with an estimated flush production of between 700 and 800 bbls. daily.

The well, which encountered the pay at a depth of 1,804 feet, penetrated it 1 foot, when it began flowing a steady stream of oil. Later when placed on the swab, it made 438 bbls. by actual gauge in 14 hours. The remarkable feature in this producer is that it is a direct offset to the west of a dry hole drilled a short time ago by Chenault & Lea that picked up the sand at about the same depth, but showed very little oil. It also offsets the Shappel Oil Co.'s producers to the east.

Another test of more than ordinary interest is Moore and others' No. 1 Kemp & Allen, a slight northeast extension to the new pool just north of the old Kemp-Munger-Allen production. It was reported flowing better than 225 bbls. per day initial after setting a liner in the 1,620-foot sand. This well is in Lot 16, Block 26, Kemp-Allen, approximately 2½ miles northeast of the old K. M. A. Field and just south of the big Wichita River. It encountered the sand at 1,616 feet and drilled 10 feet when the well blew itself in through 800 feet of mud in the bottom of the hole. The coming in with unexpected big production quickly filled all available storage on the lease, and additional tankage is being rushed to the location.

The Ryan Petroleum Co.'s No. 11 Nance, in the S. Fowler survey, in the Beaver Creek district south of Electra was semi-completed the first of the week and reported to be swabbing and flowing at the rate of 400 bbls. daily from the sand at 1,660 feet.

The Camp Oil & Gas Co.'s No. 9 Douglass, east of Electra, is producing between 125 and 150 bbls. per day from sand at 1,825 to 1,858 feet.

A development of interest was the ¾-mile extension for the 460-foot sand southeast of Electra by the Apple & Brandeberry No. 3 Mrs. Grace Jennings in Section 12. It is swabbing 100 bbls. daily from a sand at 1,458 feet, extending that sand to the southwest.

In the shallow fields south and east of Burkburnett a great many older wells are being cleaned out and others are being drilled deeper. A few new locations were made, but all were on the inside of the producing leases.

Burbank-Hirschi

Completions: John O'Neil's No. 1 Foster, dry at 2,000 feet; Winnipeg Oil Co.'s No. 4 Foster, dry at 1,900 feet.

Drilling: Baldwin and others' No. 1 Hoffler, drilling in shale at 1,000 feet; Collender and others' No. 2 Hobson, pumped 12 bbls. in 17 hours from sand at 917 feet; Cranfill Brothers' No. 1 Schroeder, drilling in lime and sand with a showing of oil and will test at 1,840 feet; Gookin and others' No. 1 Coeter, fishing for tools at 740 feet; Grace Oil Co.'s No. 1-E Daniels, rigging to pump and test a broken shale formation showing oil at 1,220 feet; Hunter and others' No. 1 Bailey, pumping 30 bbls. at 1,330 feet, may be completed at that depth; No. 2 Bailey, drilling top sand at 1,325 feet; Langford and others' No. 9 Langford, rigging up machine to test sand at 1,805 feet; Norton and others' No. 1 Kierst, drilling in shale at 1,900 feet; Pigg and others' No. 3 Foster, drilling at 1,200 feet; Pigg Oil Co.'s No. 25 Hirschi, fishing for tools at 1,535 feet; No. 26 Hirschi, drilling at 1,770 feet; Perkins and others' No. 8 Surrein, drilling in shale at 1,600 feet; Richardson and others' No. 1 Case, drilling at 1,805 feet; Robinson Oil Co.'s No. 8 Roller, coring and testing sand at 1,255 feet; Sun Oil Co.'s No. 26 Hirschi, drilling in broken sand showing oil at 1,865 feet; Sheldon and others' No. 3 Sheldon, drilling at 1,070 feet.

Wichita County

Completions: The Texas Co.'s No. 293 Waggoner, 105 bbls. at 1,085 feet; Empire Gas & Fuel Co.'s No. 1 Pierce, 100 bbls. at 1,465 feet; Culberson and others' No. 23 Jeff Waggoner, 60 bbls. at 1,520 feet; Empire Gas & Fuel Co.'s No. 11-A Waggoner, 20 bbls. at 1,825 feet; Norton and others' No. 1 Jeff Waggoner, dry at 440 feet; Saunders and others' No. 1 Nance, dry at 1,750 feet; Texhoma Oil & Refining Co.'s No. 1-E Burnett, 35 bbls. at 1,590 feet; Burton and others' No. 1 Chilson, dry at 1,825 feet; Petroleum Production Co.'s No. 1-B Allen, 40 bbls. at 1,640 feet.

Wichita County Drilling

Drilling: The Texas Co.'s No. 43 Skinner, trying to set 8-inch casing at

The THOROUGH Method of Treating Cut Oil

A CLEAN BREAK

No "B.S." Remains

There is no point in wasting even a very small portion of your crude by using a cut oil treating method that is only partially successful.

Partial results mean wasted oil and leave "B.S." to be handled.

TRET-O-LITE offers the THOROUGH treating method. Its manufacturers first discovered what it is that causes emulsions of petroleum. They then developed TRET-O-LITE, which directly attacks and destroys or neutralizes the thing in these emulsions which CAUSES them, namely, the emulsifying agents. After TRET-O-LITE has acted on the emulsifying agents, rendering them powerless, oil and water separate **completely,** by gravity.

The TRET-O-LITE process is surprisingly low in cost. If other methods tried have left a "B.S." residue, TRET-O-LITE, by eliminating this residue and recovering the petroleum from it, would repay the cost of installation in a few weeks time. Installation cost is hardly more than nominal. Treating plants are constructed from tanks, pipe and fittings often already available on the lease. The services of our field men are provided to superintend installations and instruct your men in its operation.

A great advantage of the TRET-O-LITE method is that its efficacy can be demonstrated on a small sample of the cut oil, before any installation expense is undertaken.

It is not necessary to emphasize to oil producers the gratification that results from the use of a treating method which takes the cut oil from the wells and promptly and easily recovers from it **every particle** of petroleum, discarding nothing but salt water and eliminating altogether the handling of "B.S."

We invite investigation. Allow us to send you our handsome illustrated book, "TRET-O-LITE," and to have our nearest field expert call on you at your convenience, without obligation. Address Wm. S. Barnickel & Co., Webster Groves, St. Louis County, Mo.

1,125 feet; Apple and others' No. 3 Jennings, rigging to pump and test oil sand at 1,470 feet; Baldwin Brothers' No. 1 Waggoner, drilling in shale at 1,830 feet; Black Cat Oil Co.'s No. 8 Waggoner, drilling at 950 feet; Camp Oil & Gas Co.'s No. 9-B Douglas, drilling at 1,825 feet; Carter and others' No. 3 Fisher, bailing oil and water from broken sand at 1,585 feet; Cowling and others' No. 4 Seay, coring in a sand showing oil at 1,280 feet; Drillers Development Co.'s No. 3 Douglas, drilling with machine at 100 feet; Eureka Producing Co.'s No. 9 Waggoner, pumped 40 bbls. at 1,760 feet; Gulf Production Co.'s No. 8 Jennings, drilling at 500 feet; No. 61 Miller, drilling at 800 feet; Herford Oil Co.'s No. 13 Allingham; drilling in shale at 1,915 feet; Humble Oil & Refining Co.'s No. 15-A Douglas, drilling at 600 feet; Kruger and others' No. 9-A Waggoner, drilling at 1,830 feet; Lanning and others' No. 2 McCarty, testing an oil sand at 1,335 feet; Magnolia Petroleum Co.'s No. 32-A Waggoner, drilling at 1,050 feet; same company's No. 2 Pere Waggoner, sidetracking tools at 2,015 feet; No. 7-B Waggoner, drilling at 1,540 feet; No. 79-B Burnett, drilling in lime at 1,930 feet; Owens and others' No. 2 Mitchell, rigging to bail and test a saturated lime at 1,870 feet; Perkins and others' No. 7 Burnett, drilling at 1,640 feet; Ryan Petroleum Co.'s No. 15 Nance, drilling with machine at 1,620 feet; No. 17 Nance, rigging to pump and test oil sand at 1,320 feet; Rio Bravo Oil Co.'s No. 10-A Waggoner, coring and testing sand showing oil at 1,440 feet; Scott and others' No. 1 Seay, drilling at 300 feet; Texhoma Oil & Refining Co.'s No. 3-B Burnett, drilling without any oil showing at 1,765 feet; No. 31-A Waggoner, rigging to pump and test sand showing oil at 1,915 feet; Underwood Drilling Co.'s No. 1 Smythe, drilling at 1,725 feet; United Central Oil Corp.'s No. 2 McCarty, shut down for machine on top of sand showing oil at 1,660 feet; No. 3 McCarty, rigging to pump and test oil sand at 1,320 feet; Scott Bower and others' No. 2 Peeler, bailing oil sand at 1,768 feet; Art and others' No. 1 Munger, coring and testing sand showing oil at 1,615 feet; Campbell and others' No. 1 Chilson, drilling at 1,425 feet; Electra Gulf Oil Co.'s No. 1 Mrs. Murray, at 1,440 feet; No. 3 Watkins, drilling in blue shale at 1,655 feet; Gherke and others' No. 1 Avis, drilling in rock at 685 feet; Gulf Production Co.'s No. 1 Allen, drilling in shale at 1,535 feet; Gardner and others' No. 3 Watkins, drilling in soft rock at 1,425 feet; Hill and others' No. 4 Overby, testing sand showing oil at 1,495 feet; Kimmel and others' No. 1 Ferguson, drilling at 1,635 feet; Lucky Hill Oil Co.'s No. 1 Laudenslager, running 5⅞-inch casing at 1,940 feet; Maer and others' No. 1 Overby, drilling in shale at 1,685 feet; Moore and others' No. 1 Allen, bailing and testing an oil sand at 1,616 feet; Petroleum Producing Co.'s No. 1 Allen, water trouble from sand at 1,760 feet; No. 1 Maer, drilling in shale at 1,645 feet; Strause and others' No. 4 Allen, rigging to pump and test sand showing oil at 1,625 feet; Underwood Drilling Co.'s No. 2 Maer, setting 6⅝-inch casing at 1,660 feet; Lee Wilson's No. 2 Overby, ratholing at 1,760 feet.

Archer County

Completions: Atlantic Oil & Refining Co.'s No. 1 Wilson, 100 bbls. at 1,585 feet; Bohler and others' No. 6 Wilmot, 50 bbls. at 1,595 feet; Bridwell and others' No. 2 Wilson, 60 bbls. at 1,570 feet; same company's No. 3-F Wilson, dry at 1,640 feet; Burton and others' No. 2 Wilson, dry at 1,580 feet; Camp Oil & Gas Co.'s No. 14 Wilson, 50 bbls. at 1,600 feet; Carter and others' No. 2 Parr, dry at 1,755 feet; Chenualt and others' No. 6 Richardson, 30 bbls. at 1,360 feet; same company's No. 8-B Wilson, 85 bbls. at 1,590 feet; same company's No. 1-F Wilson, 60 bbls. at 1,395 feet; Clark and others' No. 5 Richardson, 90 bbls. at 1,365 feet; Featherstone and others' No. 5-B Wilson, 150 bbls. at 1,600 feet; Fowler and others' No. 5 Wilson, dry at 1,595 feet; Griswold Oil Corp.'s No. 1-C Wilson, dry at 1,629 feet; Gulf Production Co.'s No. 1 K. & K., dry at 2,065 feet; Jones Oil Co.'s No. 7 Wilson, 90 bbls. at 1,620 feet; Kentucky Oil Corp.'s No. 4-C Wilson, 50 bbls. at 1,605 feet; same company's No. 5-C Wilson, 75 bbls. at 1,605 feet; same company's No. 5-D Wilson, 50 bbls. at 1,590 feet; Kimbrew and others' No. 2 Perkins, 40 bbls. at 1,030 feet; Pace and others' No. 2 White, dry at 1,640 feet; Pace and Muse's No. 2 Wilson, dry at 1,620 feet; Ramming and others' No. 3 Wilson, 200 bbls. at 1,595 feet; R. M. F. Oil Co.'s No. 21-B Wilson, 45 bbls. at 1,405 feet; same company's No. 24-B Wilson, 95 bbls. at 1,595 feet; Shamrock Oil Co.'s No. 6 Harbison, dry at 1,395 feet; Staley and others' No. 3-B Wilson, 70 bbls. at 1,595 feet; No. 4-C Wilson, 40 bbls. at 1,415 feet; Texhoma Oil & Refining Co.'s No. 11 Carter, 55 bbls. at 1,380 feet; Willis and others' No. 3 Jackson, 30 bbls. at 1,610 feet.

Archer County Drilling

Drilling: The Texas Co.'s No. 1 Ambercrombie, drilling at 1,540 feet; No. 2 Ambercrombie, drilling in sandy lime at 1,550 feet; No. 3 Ambercrombie, setting gas engine, depth 1,405 feet; No. 1 Hardegree, drilling broken lime at 1,640 feet; No. 1 Key, straightening hole at 1,380 feet; No. 1 Kirklin, drilling sandy shale at 1,330 feet; No. 1 Orton, rigging up cable tools at 1,590 feet; American Refining Co.'s No. 1 Ward, drilling at 1,705 feet; Andrade and others' No. 1 Haley, drilling in soft rock at 1,580 feet; Archer Oil Corp's No. 1 Robertson, standardizing on top of an oil sand at 1,452 feet; Atlantic Oil Co.'s No. 2 Wilson, bailing and testing sand showing oil at 1,590 feet; No. 4 Wilson, swabbing 550 bbls. day and not yet completed from sand at 1,580 feet; Bain and others No. 1 Block, drilling without any oil showing at 1,980 feet; Bridwell and others' No. 4-F Wilson, drilling in shale at 1,485 feet; Burns and others' No. 1 Taver, drilling and testing oil sand at 1,604 feet; Camp Oil & Gas Co.'s No. 11 Wilson, cleaning out sand showing oil at 1,600 feet; No. 1-B Wilson, bailing and testing oil sand at 1,415 feet; Carter and others' No. 1 Parrish, ratholing at 1,605 feet; Carey Drilling Co.'s No. 1 Wilson, setting 6⅝-inch casing at 1,619 feet; Chenault and others' No. 1 Wilson, drilling at 1,405 feet; Comac Oil Co.'s No. 1 Farmer, drilling in blue shale at 1,530 feet; Commercial Producing Co.'s No. 1 Rutty, coring and testing oil sand at 1,590 feet; County Line Oil Corp.'s No. 1 Reilly, drilling in brown shale at 920 feet; Cox and others' No. 1 Parrish, ratholing at 1,570 feet; Darr and others' No. 1 Ferguson, preparing to pump and test oil sand at 1,730 feet; Dilday and others' No. 1 Ferguson, drilling in rock without oil showing at 3,040 feet; Donehoe and others' No. 1 Wilson, rigging to test and pump oil sand at 1,620 feet; Douglas and others No. 1 Key, drilling at 1,380 feet; Eagle Creek Oil Co.'s No. 3 Richardson, drilling at 920 feet; Empire Gas & Fuel Co.'s No. 9-B Wilson, bailing and testing sand showing oil at 1,505 feet; No. 10 Wilson, cemented 6⅝-inch casing at 1,620 feet; No. 1-D Wilson, cemented casing at 1,675 feet; Erwin and others' No. 1 Wilson, coring oil sand at 1,660 feet; Everett and others' No. 1 Miller, drilling at 1,440 feet; Featherstone and others' No. 6-B Wilson, drilling in shale at 1,450 feet; Franklin and others' No. 1 Parrish, drilling at 1,350 feet; No. 2 Parrish, rigging to swab oil sand at 1,600 feet; Graham and others' No. 3-B Wilson, testing oil sand at 1,575 feet; Gulf Production Co.'s No. 1 Nichols, setting 6⅝-inch casing at 1,635 feet; Gwynn and others' No. 14 Carter, drilling at 1,365 feet; No. 2 Wilson, at 1,325 feet; No. 8-B Wilson, testing sand showing oil at 1,602 feet; Herbert Oil Co.'s No. 1 Blewett, trying to shut off water from sand at 1,435 feet; Hester and others' No. 3 Carter, drilling at 200 feet; Hill and others' No. 1 Wilson, drilling at 1,505 feet; Holmes and others' No. 1 Wilson, coring oil sand at 1,180 feet; Jeffries and others' No. 1 Parrish, drilling in shale at 1,415 feet; Jetter and others' No. 1 Thompson, rigging to bail and test oil sand at 1,595 feet; Kentucky Oil Corp.'s No. 3 Wilson, drilling in sand showing rainbows at 1,570 feet; No. 6 Wilson, drilling in shale at 1,545 feet; No. 1-B Wilson, testing oil sand at 1,620 feet; Kimbrew and others' No. 3 Perkins, drilling at 600 feet; Lane and others' No. 2 Carter, drilling in blue shale at 1,465 feet.

To Test Sand

Litchfield and others' No. 3 Miller, rigging to pump and test sand with 500 feet of oil in hole at 1,350 feet; Magnolia Pet. Co.'s No. 1 Coffield, rigging up cable tools, sand showing oil at 1,408 feet; McCarty Oil Co.'s No. 1-B Wilson, rigging to pump and test oil sand at 1,405 feet; McKenzie and others' No. 1 Farmer, drilling at 1,020 feet; Moore and others' No. 1 Wilson, shut down for steel drill line at 1,800 feet; Murchison and others' No. 1 Coody, fishing job at 1,320 feet; No. 7 Wilson, drilling in brown shale at 1,400 feet; No. 1 White, showing estimated 225 bbls. of oil and some water from sand at 1,590 feet; Nance and others' No. 2 Wilson, rigging to pump and test sand showing oil at 1,585 feet; Oil Investment Co.'s No. 2 Thompson, fishing at 1,575 feet; Orth and others' No. 1 Coleman, fishing job at 1,840 feet; Pace and others' No. 3 Wilson, ratholing at 1,550 feet; Panhandle Oil & Refining Co.'s No. 7 Ferguson, setting 6⅝-inch casing at 1,703 feet; Parks and others' No. 2 Wilson, swabbed 200 bbls. in 24 hours from sand at 1,580 feet; Richardson and others' No. 1 Wilson, drilling in shale at 1,260 feet; Riner and others' No. 5 Wilson, bailing oil sand at 1,617 feet; R. M. F. Oil Co.'s (Prairie Oil & Gas Co.) No. 2-C Wilson, drilling at 1,560 feet; Hudson and others' No. 1 Threat, testing sand at 1,110 feet; Scott and others' No. 2 Carter, rigging up to bail and test sand at 1,380 feet; Shamrock Oil Co.'s No. 1 Campbell, drilling at 1,190 feet; No. 5 Richardson, rigging to pump and test sand at 1,335 feet; No. 6 Richardson, moving in machine to drill oil sand at 1,350 feet; Shappell and others' No. 9 Jackson, testing sand at 1,810 feet; No. 11 Jackson, drilling at 1,000 feet; Sixty-Six Oil Co.'s No. 2-C Wilson, bailing sand showing oil at 1,590 feet; Stone and others' No. 1 Wilson, drilling in blue shale at 1,000 feet; Strong and others' No. 1 Hull, drilling in rock at 1,895 feet; Sun Oil Co.'s No. 1 Ambercrombie, swabbed 135 bbls. in 12 hours from sand at 1,410 feet; Sunshine State Oil & Refining Co.'s No. 9 Parrish, lost casing sent on top of oil sand at 1,575 feet; Swastika Oil Co.'s No. 5 Richardson, drilling at 1,200 feet; Thomas and others' No. 1 Woodrum, drilling in shale at 1,410 feet; Tucker and others' No. 2 Mrs. Carter, washing out hole, sand at 1,585 feet; showing some oil; Verschoyle and others' No. 5-B Wilson, drilling in oil sand at 1,585 feet; No. 6-F Wilson, swabbed 400 bbls. in 24 hours from sand at 1,585 feet; Wichtex Production & Development Co.'s No. 1 Wilson, 1,400 feet of oil in hole from sand at 1,623 feet.

Young County

Completions: Nash and others' No. 1 Bower, dry at 2,350 feet; Shamrock Oil Co.'s No. 2 Glidewell, dry at 4,120 feet; Simms Oil Co.'s No. 4 Lynn, 60 bbls. at 2,645 feet.

(Continued on Page 100)

East Central Texas

By Staff Correspondent

DALLAS, Tex., May 19.—Of the 704 producing wells in the Powell Field in Navarro County, 27, flowing with the aid of compressed air, were making 22,385 bbls. on Wednesday, when a canvass of the situation was made. The production of the field at the time was estimated at 109,000 bbls. which left 677 wells pumping 86,615 bbls., or an average of about 128 bbls. a day per well.

Many of the wells, particularly the big ones which are on air, are producing water with the oil. In some cases the compressed air producers bring up twice as much water as oil. The life of the wells on air will not be long. The forced production drains the sand quickly. Some of them have already gone to water.

That all the wells in the field are not on air lies in the fact that only those wells in which the body of fluid will naturally rise, say to within 1,500 feet of the top, may be subjected to compressed air with good results. The bulk of the wells in the field must be pumped in the conventional way.

The recent discovery of big production in the southwest side of the field on the Humble Oil & Refining Co.'s big tank farm started considerable work in that neighborhood, but later events proved that the zone of deep production was small and several failures have resulted. It is the feeling in the Powell district that when the present drilling wells are completed it will practically end the days of Powell as an actively drilling field, and that it will join its older neighbors, Mexia and Currie as a producing territory in which by degrees the production will depreciate.

All of the oil wells producing from the deeper sands are on air and have been for weeks. The big wells of John Hooser, J. K. Hughes Development Co., Stroube & Stroube and Mills Bennett, as the accompanying table will show, are no longer in the gusher class. Four wells of Stroube & Stroube were flowing altogether 2,500 bbls. on air. They were rated above 5,000 bbls. each when they came in. Mills Bennett's two gushers, Nos. 1 and 3 are together flowing 2,700 bbls. No more big wells were expected in the field, although this is reckless guessing where Powell is concerned, as that field has been upsetting the dope ever since the first well came in in January, 1923.

The production of wells on compressed air is given in the table below:

Wells Producing on Compressed Air in the Powell Field and Their Production as of May 15

	Production, Bbls.
The Atlantic Oil Producing Co.—	
No. 4B Irvine	325
No. 3 Kellum	700
Gulf Production Co.—	
No. 12 Crews	1,100
No. 14 Crews	1,000
No. 20 Crews	1,800
Humble Oil & Ref. Co.—	
No. 4 Hill	1,500
No. 5 C. Irvine	250
No. 11 G. Kent	700
No. 7B Ramsey	800
No. 12 Ramsey	600
Hoover & Thompson—	
No. 1 Hill	300
John Hooser—	
No. 2 Hill	900
No. 3 Hill	800
J. K. Hughes Development Co.—	
No. 6 Alexander	400
Mutual Oil Co.—No. 2	1,830
Stroube & Stroube—	
No. 1 Hill	800
No. 2 Hill	700
No. 3 Hill	600
No. 4 Hill	400
Sims Oil Co.—	
No. 1 Boyd	1,060
No. 5 Boyd	420
No. 7 Rose	550
No. 10 Rose	350
No. 11 Rose	600
Mills Bennett No. 1—	
No. 1 Woolens	1,200
No. 3 Woolens	1,500
Skelly Oil Co.—No. 5 Carroll	1,200
Total	22,385

The production of the field on May 10 from 694 wells was 110,095 bbls. It is given in detail in the accompanying table. The Humble Oil & Refining Co. led with 36,985 bbls. from 195 wells. The Gulf Production Co. had 10,904 bbls. from 75 wells; the Pure Oil Co. (formerly the Humphreys Oil Co.) was credited with 9,779 bbls. from 75 wells. The Tidal Oil Co., with 81 wells, had 6,150 bbls.; Atlantic Oil Producing Co., 5,908 bbls. from 25 wells; Simms Oil Co.,

(Continued on Page 104)

BY SPECIAL DELIVERY

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North Louisiana-Arkansas

By M. L. Vaughn

Production practically unchanged, increases in Smackover being offset by decline in El Dorado and Nevada County pools. Union County has 32 completions and Ouachita 23, with one failure each. Bond & Evans No. 1 Scott flows 1,500 bbls. and J. E. Crosbie's No. 3 Scott same. Federal Petroleum gets two.

SHREVEPORT, La., May 19.—Very little change in production figures is noted throughout the Arkansas and north Louisiana fields for the week ending May 10, new production only a trifle more than offsetting the natural falling off in the output. Production from several large wells in the Smackover district which resulted in an increase of nearly 10,000 bbls. a day, is holding up remarkably well, the combined output of the heavy and light oil pools in this territory amounting to 132,050 bbls. a day, an increase of 295 bbls. a day over the previous week. This increase was offset by slight reduction in the El Dorado and Nevada County Pools, the total daily average of the Arkansas Fields amounting to 148,940 bbls., a decrease of 295 bbls. a day. In the North Louisiana Field, the daily average production amounted to 53,360 bbls., an increase of 565 bbls. a day. The total daily average production of the two fields was 202,300 bbls., distributed as follows:

North Louisiana

	Last week	This week
Bellevue	5,480	5,320
Caddo light	11,300	11,410
Caddo heavy	2,820	2,800
Cotton Valley	990	1,450
De Soto and Red River	4,580	4,620
Elm Grove	900	910
Haynesville	18,500	18,650
Homer	8,225	8,200
Total	52,795	53,360

South Arkansas

El Dorado	13,150	13,145
Nevada County	1,560	1,550
Smackover light	35,450	35,940
Smackover heavy	96,600	95,815
Stephens	2,490	2,490
Total	149,250	148,940
Total, both fields	202,045	202,300

Increase, 255 bbls.

Union County Completions

Completions in the Union County area of the Smackover Field numbered 32, with only one failure, the aggregate initial production amounting to 11,805 bbls.

The Arkansas Fuel Oil Co. completed No. 4 Smith, Section 18-16-15, pumping 35 bbls. at 2,077 feet.

Bernstein and others are swabbing No. 1 Bell, Section 21-1 -15, making 400 bbls. at 2,054 feet.

Bond & Evans completed one of the best wells of the week in No. 1 Scott, Section 19-16-15, flowing 1,500 bbls. at 2,073 feet.

J. E. Crosbie, trustee, completed two wells, No. 5 Graves, Section 17-16-15, making a 75-bbl. pumper at 2,032 feet and No. 3 Scott, Section 19-16-15, flowing 1,500 bbls. at 2,058 feet.

The Federal Petroleum Co. completed No. 1 Scott, Section 19-16-15, flowing 500 bbls. at 2,080 feet and No. 5 Stocks, Section 20-16-15, flowing 500 bbls. at 2,053 feet.

Fleming and others completed No. 1 Harrell, Section 21-16-15, pumping 350 bbls. at 2,078 feet.

W. H. Gilliland's No. 1 Staples, Section 1-16-17, made a 100-bbl. pumper at 2,280 feet.

The Gulf Refining Co. completed three wells; No. 7 Hardy Murphy, Section 5-16-15, made an 80-bbl. pumper at 1,998 feet; No. 1 Werner, Section 6-16-16, pumped 90 bbls. at 2,253 feet and No. 3 M. Alphin, Section 11-16-15, was abandoned at 2,302 feet.

Hickman and others completed No. 4 Hays, Section 21-16-15, swabbing 500 bbls. at 2,060 feet.

The Houston Oil Co.'s No. 3 Ballard, Section 21-16-15, came in flowing 70 bbls. at 2,050 feet.

The Humble Oil & Refining Co. completed No. 3 Dumas, Section 21-16-15, flowing 100 bbls. at 2,056 feet, and No. 1 Moore, Section 19-16-15, swabbing 1,000 bbls. at 2,050 feet.

The Imperial Oil & Gas Co. completed No. 3 Lawton, Section 7-16-15, pumping 100 bbls. at 2,096 feet.

Keene & Woolf completed No. 3 Hinshaw, Section 17-16-15, pumping 65 bbls. at 2,084 feet.

The Louisiana Texas Drilling Co. 's swabbing No. 4 Hays, Section 21-16-15, making 500 bbls. at 2,063 feet.

The Lion Oil & Refining Co. completed two wells on the Allgulf lease in Section 17-16-15, No. 2 pumping 125 bbls. at 2,130 feet and No. 3 pumping 100 bbls. at 2,089 feet and No. 4 G. F. Murphy, Section 18-16-15, pumping 125 bbls. at 2,012 feet.

Looney and others completed No. 1 Hicks, Section 20-16-15, flowing 500 bbls. at 2,060 feet.

The Magnolia Petroleum Co.'s No. 3 Neely, Section 1-16-17, made a 90-bbl. pumper at 2,264 feet.

Olvey and others completed No. 1 Moore, Section 24-16-16, flowing 300 bbls. at 2,072 feet.

The Pure Oil Co.'s No. 3 Smith, Section 18-16-15, made a 40-bbl. pumper at 2,046 feet.

The Roxana Petroleum Corp. is swabbing No. 1 Scott, Section 19-16-15, making 2,000 bbls. at 2,092 feet.

The Standard Oil Co. of Louisiana completed No. 13 Alphin, Section 11-16-15, pumping 35 bbls. at 2,008 feet.

Stewart and others are swabbing No. 1 Hicks, Section 20-16-15, making 300 bbls. at 2,085 feet. No. 2 McKinney, Section 19-16-15, made a 125-bbl. pumper at 2,066 feet.

The Texas Co.'s No. 3 Cook, Section 21-16-15, made a 300-bbl. pumper at 2,055 feet.

The Unity Oil Co. completed Alphin A-2, Section 24-16-16, flowing 300 bbls. at 2,064 feet.

Union County Drilling

During the past week there were 32 completions; 27 wells waiting on standard rigs; 11 temporarily abandoned; 119 drilling; 19 rigs; 37 derricks and 8 new locations.

Anderson and others set 10-inch casing at 61 feet in No. 2 S. D. Cook in Section 17-16-15; Arkansas Drilling Co. is waiting on standard rig in No. 1 Lewis Werner saw mill, hole full of oil with 6 feet of sand at 2,265 feet in Section 1-16-17; rigging up No. 2 Lewis Werner saw mill in same section; Arkansas Fuel Co. set 6-inch casing at 2,230 feet in No. 3 LaGrone, also in Section 1-16-17.

Barnsdale & Foster set 6-inch casing at 2,022 feet in No. 5 Murphy in Section 17-16-15; Beggs and others, rigging up No. 1 Murphy in Section 36-16-16; Braswell and others, derrick burned down on No. 2 Moore in Section 19-16-15, and rebuilding derrick, now at 2,076 feet; Broderick and Calvert set 8-inch casing at 2,308 feet in No. 1 Harrell in Section 8-16-15; Caldwell and others have derrick up for No. 1 Hancock in Section 25-16-16.

The Cherokee Petroleum Co. set 10-inch casing at 65 feet in No. 1 Burton in Section 25-16-16; J. E. Crosbie, trustee, drilling at 1,250 feet in No. 3 Alphin in Section 29-16-15; set 10-inch casing at 85 feet in No. 1 Scott in Sevtion 19-16-15; and set 10-inch casing at 50 feet in No. 2 Scott in same section.

J. W. Clark is waiting on standard rig with 1,200 feet of oil in hole and 16 feet of sand at 2,095 feet in No. 1 Hicks in Section 20-16-15; Coker Drilling Co., drilling at 1,255 feet in No. 1 Thornton in Section 14-16-16; T. L. Cook, drilling at 1,995 feet in No. 1 Wells in Section 21-16-15; Crawford and Sebastian set 6-inch casing at 2,222 feet in No. 6 Giller in Section 14-16-15 and set 12-inch casing at 100 feet in No. 3 Graves in Section 3-16-15.

Cross and others are drilling at 2,025 feet in No. 1 Smith in Section 13-16-16; Dunn Oil Co. set 6-inch casing at 1,960 feet in No. 3 Smith in Section 18-16-15; Dyer Brothers set 10-inch casing at 100 feet in No. 2 Neely in Section 1-16-17; Eason and others, arranging to abandon at 2,070 feet No. 1 Dumas in Section 28-16-15.

The Federal Petroleum Co. is arranging to set 2½-inch tubing at 2,075 feet with 17 feet of sand and 800 feet of oil in hole in No. 2 Scott in Section 19-16-15; set 10-inch casing at 115 feet in No. 3 Scott in same section; arranging to test 9 feet of sand at 2,065 feet in No. 1 Smith in Section 18-16-15; set 6-inch casing at 2,025 feet in No. 2 Smith in same section; and set 10-inch casing at 95 feet in No. 3 Smith in same section.

The Field Operators Co. has derrick up for No. 1 Kane in Section 12-16-16; W. H. Gilliland set 10-inch casing at 100 feet in No. 3 Hodges in Section 1-16-7 and No. 2 Hodges in same section.

Gulf Refining Operations

The Gulf Refining Co. is waiting on standard rig with 27 feet of sand at 2,000 feet in No. 7 M. Alphin in Section 11-16-15 and rigging up to drill No. 1 Hedgewood in Section 13-16-16; set 6-inch casing at 1,895 feet in No. 1 Hicks in Section 23-16-16; rigging up No. 1 A. Moore in Section 24-16-16; waiting on standard rig with 500 feet of oil in the hole and 17 feet of sand at 2,005 feet in No. 8 Hardy Murphy in Section 3-16-15; set 10-inch casing at 299 feet and drilling at 1,100 feet in No. 9 Hardy Murphy in same section; set 6-inch casing at 2,205 feet and bailing to test 10 feet of sand at 2,260 feet in No. 18 L. Werner in Section 5-16-16; set 10-inch casing at 108 feet in No. 19 L. Werner in same section.

Harrell and others are drilling lime at 2,475 feet in No. 1 Teele in Section 11-19-12; Henderson and others rigging up to drill No. 3 Smith in Section 18-16-15; Hickman and others, waiting on standard rig with 400 feet of oil in the hole and 13 feet of sand at 2,069 feet in No. 3 Hays in Section 21-16-15; set 6-inch casing at 1,993 feet in No. 2 Hicks in Section 20-16-15.

The Higgins Oil and Refining Co. set 6-inch casing at 1,975 feet in No. 3 Hicks in Section 20-16-15; and Holliday, trustee, set 6-inch casing at 2,200 feet in No. 2 Goff in Section 6-16-16; Humble Oil and Refining Co. lost 6-inch seat and waiting on 5-inch to reset at 2,004 in No. 2 Moore in Section 19-16-15; Hunt and others set 10-inch casing at 61 feet in No. 1 Dumas in Section 23-16-16; Hurst and others temporarily abandoned No. 1 Dumas in Section 9-17-16.

The Imperial Oil and Gas Co. is rigging up No. 4 Lawton in Section 7-16-15, moved No. 1 Smith in Section 29-17-14 over 25 feet and set 10-inch casing at 295 feet in the second hole; Johnson and others have derrick up for No. 1 Burton in Section 25-16-16; Keene and Woolf, drilling at 1,420 feet in No. 1 Hinley in Section 28-16-15; sidetracking liner at 1,995 feet in No. 1 Murphy in Section 9-16-15; Koury and others set 10-inch casing at 65 feet in No. 1 Harrell, in Section 21-16-15.

The Lion Oil & Refining Co. set 6-inch casing at 2,012 feet in No. 4 Allgulf in Section 17-16-15 and No. 2 Burns in same section; and Hedgewood No. 1 in Section 24-16-16; set 12-inch casing at 60 feet in No. 1 Smith in Section 13-16-16; Lyell and others waiting on standard rig with 1,200 feet of oil in hole and 12 feet of sand at 1,980 feet in No. 4 fee in Section 3-16-15.

Magnolia Co.'s Work

The Magnolia Petroleum Co. set 12-inch casing at 1,100 feet in No. 4 Neely, in Section 1-16-17; Manziel and others, drilling at 2,035 feet in No. 1 Hill, in Section 21-16-15; Marine Oil Co. has derrick up for No. 1 W. C. Murphy in Section 15-16-15; waiting on standard rig with 600 feet of oil in hole and 15 feet of sand at 2,057 feet in No. 4 Murphy in Section 15-16-15; Mazda Oil Co., drilling gumbo at 2,095 feet in No. 1 Lawton in Section 10-16-15.

McFarland and others set 6-inch casing at 2,014 feet in No. 1 Hearin in Section 13-16-16; Moco Oil Corp. set 6-inch casing at 1,997 feet and bailing to test 19 feet of sand at 2,058 feet in No. 1 Bell in Section 21-16-15; Hill Myer and others set 10-inch casing at 88 feeet in No. 2 McKinney in Section 19-16-15.

The Natural Gas & Petroleum Corp set 6-inch casing at 2,040 feet in No. B-2 Murphy in Section 17-16-15; and rigging up No. 1 Tatum in Section 14-16-16; Nikander and others, drilling at 1,770 feet in No. 1 Dumas in Section 28-16-15; Ohio Oil Co. set 12-inch casing at 120 feet in No. 2 Murphy in Section 9-16-15; Olvey and others, rigging up No. 2 Moore in Section 24-16-16.

Page and others set 6-inch casing at 1,872 feet in No. 3 Alphin, in Section 23-16-15; Penguin Oil Co. set 10-inch casing at 45 feet in No. 2 Berry in Section 18-16-13; Phillips Petroleum Co. set 6-inch casing at 1,957 feet in No. B-1 in Section 11-16-15; set 6-inch casing at 2,225 feet in No. 3 Giller in Section 10-16-15; swabbing to test 50 feet of broken sand at 2,082 feet in No. 1 Moore in Section 24-16-16.

The Preston Oil Co. moved No. 4 Churchyard over 25 feet and set 10-inch casing at 60 feet in second hole in Section 21-16-15; and arranging to test 50 feet of broken sand at 2,080 feet in No. 2 S. D. Cook in Section 17-16-15.

Pure Oil Operations

The Pure Oil Co. set 6-inch casing at 1,990 feet in No. 4 Berry in Section 18-16-15; derrick up for No. 5 Berry in Section 20-16-15; set 10-inch casing at 61 feet in No. 9 Craig in Section 15-16-15; derrick up for No. 3 Dumas in Section 16-16-15; set 10-inch casing at 65 feet in No. 5 Hays in Section 21-16-15; waiting on standard rig with 8 feet of sand and 1,100 feet of oil in the hole at 2,048 feet in No. 1 M. Hays and rigging up No. 2 M. Hays, both in Section 21-16-15; set 6-inch casing at 2,015 feet in No. 1 F. Hicks in Section 20-16-15 and No. 2 F. Hicks in same section; set 10-inch casing at 65 feet in No. L-4 Hicks in Section 20-16-15 and rigging up No. 5 L. Hicks in the same section; set 6-inch casing at 1,985 feet in No. 2 Stocks and set 6-inch casing at 2,070 feet in No. 1 Wilson, both in Section 20-16-15.

FIRST COOPER DROP FORGED CONNECTING ROD COST OVER $6,000

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Ramage and others are drilling at 1,750 feet in No. 2 Hedgewood in Section 24-16-16; set 6-inch casing at 1,960 feet in No. 3 Hedgewood; derrick up for No. 4 Hedgewood, all in Section 24-16-16; Ray Drilling Co. waiting on standard rig with 1,000 feet of oil in the hole and 7 feet of sand at 2,048 feet in No. 1 Hicks and set 10-inch casing at 61 feet in No. 3 Hicks, both in Section 20-16-15.

Same Richardson tested dry No. 3 E. G. Murphy in Section 23-16-15 at 2,007 feet and arranging to deepen; Roxana Petroleum Corp. is mudding off fresh water in No. 1 C. Flenniken in Section 8-16-15; set 10-inch casing at 100 feet in No. 3 Scott and rigging up No. 4 Scott, both in Section 19-16-15; Sanford and others set 6-inch casing at 1,995 feet in No. 3 Murphy, in Section 8-16-15; Seip and others, rigging up No. 1 Hedgewood in Section 24-16-16.

Smitherman-McDonald are drilling at 2,527 feet in No. A-5 Saxon in Section 32-15-16; Standard Oil Co. of Louisiana rigging up No. 8 Alphin in Section 3-16-15; drilling gumbo at 1,700 feet in No. 14 Alphin in Section 11-16-15; set 6-inch casing at 2,220 feet in No. 14 Hardy; set 6-inch casing at 1,950 feet in No. 7 Lingelbach in Section 22-16-15; Starke and others, bailing to test no show at 2,297 feet in No. 1 Little in Section 21-19-12; Staves Oil Co., waiting on standard rig with 1,200 feet of oil and 19 feet of sand at 2,060 feet in No. 1 Hicks in Section 20-16-15.

The Steel Oil Co. shut down No. 3 Hodges at 525 feet in Section 12-16-17; Stewart and others, fishing for six joints of drill stem at 1,765 feet in No. 2 Hicks in Section 20-16-15; drilling No. 3 Hicks in same section at 1,470 feet; set 6-inch casing at 2,047 feet in No. 3 McKinney in Section 19-16-15; and set 10-inch casing at 88 feet in No. 4 McKinney in same section.

Sun Oil Co.'s Drilling

The Sun Oil Co. set 8-inch casing at 2,195 feet in No. 2 Smith in Section 1-16-17, derrick up for No. 3 Smith in same section; set 6-inch casing at 2,012 feet in No. 2 Wilson.

Sure Oil Corp set 10-inch casing at 105 feet in No. 2 Smith in Section 24-16-16; derrick up for No. 3 Smith in same section; set 10-inch casing at 85 feet in No. 4 Smith in Section 24-16-16 and rigging up No. 6 Smith in same section.

Sutherland and others are drilling at 1,700 feet in No. 1 Neely in Section 1-16-17; Tarver and others set 10-inch casing at 85 feet in No. 1 Dumas in Section 23-16-16; Terry-Summerfield, waiting on standard rig at 2,228 feet in No. 5 Smith in Section 20-17-14; E. T. Teter, trustee, drilling shale at 2,725 feet in No. 1 Burnside in Section 33-17-13.

The Texas Co. set 6-inch casing at 2,005 feet in No. 5 Cook in Section 21-16-15; set 10-inch casing at 55 feet in No. 2 Hedgewood in Section 24-16-16; set 15-inch casing at 55 feet in No. 1 J. G. Smith in Section 2-16-17. Traffic Oil Co., waiting on drill stem at 2,892 feet in No. 1 Goodwin in Section 20-16-14; Thurman and others, drilling at 1,300 feet in No. 1 Goodwin in Section 23-16-16; Umsted and others, set 15-inch casing at 58 feet in No. 1 Cargile in Section 6-16-14.

The Unity Oil Co. set 6-inch casing at 2,004 feet in No. A-3 Alphin in Section 24-16-16; set 10-inch casing at 45 feet in No. B-2 Alphin, derrick up for B-3 Alphin, all in Section 24-16-16; Walber and others, waiting on 8-inch casing to test 2½ feet sand at 2,204 feet in No. 1 Cordell in Section 1-18-14.

Wall and others set 10-inch casing at 224 feet in No. 1 Johnson in Section 1-18-17; Woodley Petroleum Co. set 10-inch casing at 58 feet, and drilling at 1,105 feet in No. 2 Alphin in Section 24-16-16; derrick up for No. 3 Alphin in same section; Waxler and others set 10-inch casing at 65 feet in No. 1 Moore in Section 24-16-16.

Ouachita County Completions

Operations in the Ouachita area of the Smackover Field resulted in the completion of 23 wells, with only one failure and aggregate initial production amounting to 2,085 bbls.

The Atlantic Oil Producing Co. completed three wells: Brierton A-5, Section 25-15-17, flowing 60 bbls. at 2,314 feet; Rowland A-4, Section 29-15-16, swabbing 180 bbls. at 2,295 feet, and Rowland D-1, Section 25-15-17, flowing 165 bbls. at 2,325 feet.

Gilbertson and others completed No. 8 Perry, Section 24-15-17, pumping 60 bbls. at 2,295 feet.

The Gilliland Oil Co.'s No. 7 Solmson, Section 29-15-16, came in flowing 90 bbls. at 2,300 feet, and in the same section LaGrone S-1 flowed 125 bbls. at 2,267 feet.

The Home Refining Co. completed No. 2 Anderson, Section 26-15-17, pumping 50 bbls. at 2,358 feet.

R. P. Morris completed No. 1 Stringfellow, Section 29-15-16, flowing 180 bbls. at 2,310 feet.

Myerscough and others completed No. 1 Brierton, Section 26-15-17, pumping 35 bbls. at 2,342 feet.

R. B. Nelson's No. 2 Anderson, Section 25-15-17, made a 60-bbl. pumper at 2,346 feet.

The Pure Oil Co. completed No. 1 on the Moline Lumber Co. lease in Section 21-11-17, dry and abandoned at 2,887 feet.

The Standard Oil Co. of Louisiana abandoned Goodwin B-2, Section 5-16-15, at 2,232 feet.

Stumph & Todd completed No. 2 La Grone, Section 30-15-16, flowing 25 bbls. at 2,282 feet and No. 2 Shirey, in the same section, flowing 80 bbls. at 2,280 feet.

Sutton and others completed No. 1 Hughes, Section 28-15-16, flowing 60 bbls. at 2,273 feet and No. 2 Hughes in the same section, flowing 40 bbls. at 2,260 feet.

A. F. Tarver completed No. 2 Fincher, Section 29-15-16, flowing 185 bbls. at 2,275 feet, No. 5 LaGrone, Section 30-15-16, pumping 100 bbls. at 2,275 feet and No. 4 Snow, Section 30-15-16, flowing 100 bbls. at 2,295 feet.

The V. K. F. Drilling Co. completed No. 5 Patton, Section 32-15-16, flowing 70 bbls. at 2,260 feeet.

Ouachita County Drilling

The Arkansas Invincible Oil Co. is rigging up to drill No. 4 McRee in Section 30-15-16 and No. B-3 and 4 in Section 31-15-16; waiting on standard rig in No. A-6 Brierton, in Section 25-15-17, with 700 feet of oil and 25 feet of sand in the hole at 2,299 feet; set 10-inch casing at 200 feet in No. C-1 Rowland in Section 20-15-16; rig up for E-1 Rowland in the same section; set 6-inch casing at 2,245 feet in No. 5 Smith in Section 20-15-16; set 10-inch casing at 65 feet in No. 6 and drilling at 1,861 feet in the same section; junked No. B-1 Wells and moved over 20 feet and drilling at 50 feet; set 12-inch casing at 55 feet in No. B-4 Wells and derricks up for No. B-5 and 6, all in Section 20-15-16.

Burch-Walker set 10-inch casing at 90 feet in No. 3 LaGrone in Section 25-15-17; Burton, Trustee, is drilling at 2,120 feet in No. 8 Hughes in Section 21-15-16; Deshko and others, drilling at 50 feet in No. 1 T. C. Joyce in Section 34-15-16; El Dorado Union Oil Co., drilling at 2,170 feet in No. 2 Anderson in Section 19-15-16; bailing to test 9 feet of sand at 2,259 feet in No. 3 Hughes in Section 28-15-16 and derrick up for No. 6 Hughes in Section 21-15-16; drilling at 1,190 feet in No. 2 LaGrone in Section 30-15-17.

The Forest Oil Co. is drilling at 1,800 feet in No. 1 C. Minor in Section 20-15-16; Gilliland Oil Co., rigging up to drill No. 8 Kelly in Section 29-15-16 and set 6-inch casing at 2,260 feet in No. 8-2 LaGrone in Section 26-15-17.

The Gulf Refining Co. is drilling at 2,195 feet in No. 6 Fincher in Section 28-15-16; trying to get returns in No. 1 Hardin in Section 28-15-16; cleaning out No. 2 Hardin in the same section; rigging up to drill No. 6 Meakin in Section 29-15-16; fishing for bailer in 11 feet of sand at 2,258 feet in No. 3 T. C. Patton in Section 32-15-16; rigging up No. 5 Stringfellow in Section 29-15-16; set 6-inch casing at 1,900 feet in No. A-7 Umsted in Section 33-15-15 and in No. A-5 Werner in Section 36-15-17.

Hale and others are waiting on standard rig with 1,000 feet of oil in the hole and 10 feet of sand at 2,275 feet in No. 2 Brierton in Section 25-15-17; Harris and others are fishing for drill stem at 1,700 feet in No. 1 Smith in Section 25-15-17; Hogan and others set 10-inch casing at 65 feet in No. 1 Jeffus in Section 26-15-17.

The Home Refining Co. is drilling at 1,700 feet in No. 3 Anderson in Section 26-15-17; Houston Oil Co., drilling at 2,020 feet in No. 9 Laney, in Section 31-15-15 and rigging up to drill No. 4 Patton, same section; Humble Oil & Refining Co., sidetracking liner at 2,065 feet in No. 5 Umsted in Section 5-16-15.

E. Johnson set 6-inch casing at 2,275 feet in No. 3 Hughes in Section 21-15-16; J. N. Johnson, fishing for bailer in 6 feet of sandy shale at 2,288 feet in No. 2 Hicks in Section 27-15-16; E. S. Kelly temporarily abandoned No. 1 Smith at 2,365 feet in Section 34-15-17; Kouri and others, drilling at 1,250 feet in No. 1 Wells in Section 24-15-17; Leon and others, drilling at 1,975 feet in No. 1 Berg in Section 4-16-15.

Magnolia Operations

The Magnolia Petroleum Co. is drilling at 2,125 feet in No. B-7 Smith in Section 31-15-16; set 12-inch casing at 195 feet in No. 9 Smith in the same section; Majestic Smackover Syndicate, plugging back to cut off salt water and waiting on cement to set at a total depth of 2,314 feet in No. A-1 McElroy in Section 29-15-16.

The Morris Drilling Co. is bailing to test 8 feet of sandy shale at 2,285 feet in No. 4 Mullins in Section 27-15-16; Myerscough and others are drilling at 1,600 feet in No. 2 Brierton in Section 26-15-17.

The Natural Gas and Petroleum Corp. is bailing casing at 2,231 feet in No. 1 Hughes in Section 26-15-17; R. B. Nelson, rigging up No. 1 Jeffus in Section 26-15-17; J. E. Nelson tested dry at 2,327 feet and drilling through liner at 2,333 feet in No. 1 E. Bryant; Palmetto Oil Co. set 10-inch casing at 60 feet in No. 1 Reynolds in Section 25-15-17.

The Pure Oil Co. shot casing and abandoned at 2,887 feet No. 1 Moline Timber Co. in Section 21-11-17; Ramage and others set 6-inch casing at 2,250 feet in No. 1 Jeffus in Section 25-15-17; Simms Oil Co. abandoned location of No. 5 Hildebrand in Section 28-15-15; Skelly Oil Co. set 6-inch casing at 2,275 feet in No. 2 Chandler, in Section 19-15-16; set 6-inch casing at 2,282 feet in No. 3 Chandler; 10-inch casing at 65 feet in No. 4 Chandler; and derrick up for No. 5 Chandler, all in Section 19-15-16.

The Smackover Creek Oil Co. corrected 4-inch casing seat at 2,265 feet and tested dry at 2,310 feet and waiting on fuel at

(Continued on Page 108)

News of Mexican Fields

By George Blardone

TAMPICO, Mexico, May 17.—The best completions the past week in Mexican fields belong to the Penn Mex Fuel Co., in its No. 25 Alamo tract, in the South Fields, which is good for 20,000 bbls. a day and the Mexican Gulf Oil Co., its No. 38, Lot 1, Cacalilao sector of the Panuco Pool, being rated good for 15,000 bbls. at 1,689 feet. Its No. 13, same, is called good for 15,000 bbls. at 1,689 feet. Its No. 13, same, is called a completion at 1,850 feet, good for 250 bbls. La Corona Petroleum Co.'s No. 76, Lot 1 Cacalilao, is a 3,000-bbl. well at 1,405 feet, an exceptionally shallow well; No. 79, same, is rated 300 bbls. at 1,980 feet. Mexican Sinclair Petroleum Corp.'s No. 28, Lot 1 Cacalilao, (4-B), is rated 1,000 bbls. at 1,495 feet. Rich Mex Oil Co.'s No. 78, Lot 1 Cacalilao (4-B), is good for 4,000 bbls. at 1,680 feet. Transcontinental Petroleum Co.'s No. 46, Lot 4, is 100 bbls. at 2,225 feet. In sum, the pay completions in the Panuco Field, Cacalilao sector, during the week adds a total of 23,650 bbls. potential flush production to existent production there.

The failures in Panuco total nine holes, all but two in the Cacalilao sector.

In the South fields, Huasteca Petroleum Co. (Mexican Petroleum), completed its No. 40 Cerro Azul at a sub-sea level depth of 1,218 feet, which marks it a shallow well. It is rated good for an actual production of say 1,500 bbls., conservatively estimated.

Panuco-Cacalilao

Drilling operations in the Cacalilao sector of the Panuco Field as the week closed exhibited the following status:

Cia. Credito Petrolia, No. 26, Lot 1 Cacalilao, drillng in the San Felipe at 1,750 feet. La Corona Petroleum Co.'s No. 37-A, Lot 4, drilling in the same formation at 1,310 feet; No. 88, same, rigging; No. 84, same, moving in and No. 97 a derrick. Over in Lot 1, its operations follow: No. 65 is a crooked hole, in lime, at 1,970 feet; No. 83, spudded; No. 77, in gray lime at 2,050 feet; Nos. 40 and 80 cemented 8-inch at 1,100 and 1,210 feet, respectively, both in the San Felipe; No. 94, rigging standard; No. 95 a derrick. To revert to Lot 4, No. 78 cemented 8-inch at 1,212 feet in the San Felipe, and No. 81, drilling in shale at 540 feet. International Petroleum Co.'s operations in Lot 5 Cacalilao follow: No. 59, cemented 8-inch in the San Felipe at 1,195 feet; No. 56 has done the same in a similar formation at 1,200 feet; No. 77, running 8-inch at 1,200 feet, and No. 78, rigging. In Lot 4, its progress follows: No. 70-A, shut down for fuel in gray lime at 2,250 feet; No. 71, running 8-inch to cement in the San Felipe at 1,108 feet; No. 73, drilling at 1,900 feet in the Tamasopa; its No. 74, cemented 8-inch in the San Felipe at 1,197 feet. Kone & Willis' No. 3, Lot 1, is drilling in the San Felipe at 1,510 feet. Mexican Gulf Oil Co.'s No. 23, Lot 1 (4-C), is a derrick; No. 31, same, cemented 8-inch in the San Felipe at 1,198 feet; No. 61, Lot 1, (4-A) showing of 50 bbls. in the San Felipe at 1,310 feet. Mexican Sinclair Petroleum Corp.'s No. 38, Lot 1 (1-C) is drilling in shale at 720 feet; No. 32, Lot 1, (5-B) cemented 10-inch in the San Felipe at 1,104 feet; No. 33, same, drilling in gray lime at 1,050 feet; No. 41, same, rigging; No. 23, Lot 1 (4-B) is drilling in the San Felipe at 1,425 feet; No. 45, in Lot 2 cemented 10-inch in the San Felipe at 1,225 feet; No. 83, Lot 2, a derrick. Mexican Atlas Petroleum Corp.'s No. 1, Lot 1 (5), is drilling in the San Felipe at 1,330 feet; No. 2, same, 700 feet in shale; No. 4, same, in a similar formation at 400 feet; No. 7, same, in the San Felipe at 1,380 feet. Mexican Petroleum Co.'s No. 10, Lot 1, is drilling in shale at 1,020 feet; No. 11, same, drilling in shale and shell at 1,100 feet; No. 12, same, in shale at 500 feet, and No. 13 in the same formation at 900 feet.

Mexican Eagle Oil Co.'s No. 7, Lot 1, (4-B), is drilling in gray lime at 1,500 feet. Rich Mex Oil Co.'s operations in Lot 1 (4-B), follow: No. 44, in shale at 925 feet; No. 70, in shale at 1,050 feet; No. 72, in the same formation at 1,010 feet; No. 87, cemented 8-inch in the San Felipe at 1,128 feet; No. 93, in shale at 560 feet, and No. 98 in the same formation at 1,065 feet. Transcontinental Petroleum Co.'s operations in Lot 4 follow: No. 48 cemented 10-inch in the San Felipe at 1,300 feet; No. 49 in the same formation at 1,700 feet; No. 69, spudding; No. 84, in the San Felipe at 1,500 feet; No. 85, in the same at 1,700 feet; No. 86, a derrick; No. 91, drilling in shale at 950 feet. In Lot 1, No. 95

(Continued on Page 106)

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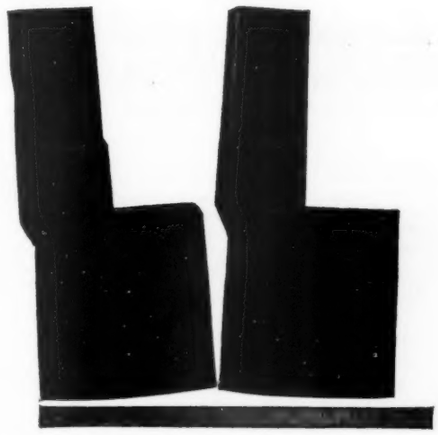

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Wyoming Field Operations

By F. B. Taylor

Midwest gets six producers in Salt Creek, one of 1,550 bbls., one of 1,300, one of 250 and three of 100 bbls. Texas Production Co. has a good producer in Lost Soldier Field. Foster-Sweeney Syndicate and Van Meer Oil Co. strike 3,000-bbl. gusher in Sunburst Field, Montana, in location considered hopeless.

CASPER, Wyo., May 17.—The fields are commencing to resume activity after a long spell of bad weather, poor roads and other troubles. Salt Creek is busy and the Casper refineries are all working full time again.

The Kinney Coastal Oil Co. is below 1,000 feet in the test north of Riverton, about 60 miles on the Wind River. This is a wildcat on a new structure near Black Mountain. Because there is another Black Mountain structure in Hot Springs County, east of Thermopolis, the Kinney Coastal well has not received a name to date.

The Producers & Refiners Corp. has completed the gas line from the Eight Mile Lake structure in Carbon County to the Parco refinery and the gas was turned into the line the past week. This line carries gas from the Hatfield Oil Co.'s well to the refinery for fuel for the plant and enables the Producers & Refiners to turn out a large amount of fuel oil otherwise used under the stills.

The Midwest Refining Co. brought in two big wells in Salt Creek the past week and four other good producers. The Midwest Oil Co., on Section 14-40-79 found the second Wall Creek sand at 1,880 feet and the well started off at 1,550 bbls. and the same company, on Section 25-40-79, found the second Wall Creek sand at 1,481 feet and the well is making 1,300 bbls. daily. On the same section, the Midwest Oil and the Wyoming Associated Oil Co. joint well found the second Wall Creek at 1,678 feet and is making 120 bbls. and the Midwest Oil Co. drilled in a producer on Section 35-40-79 that is good for 100 bbls. The Mountain & Gulf Oil Co. found the second Wall Creek at 2,423 feet on Section 12-40-79 in the north end of the field and the well is estimated at 250 bbls. and the Wyoming Oil Fields on Section 17-40-79 got a well good for 100 bbls. on Section 22-40-79, in the second Wall Creek sand.

The Fargo Oil Co., operating in the Poison Spider Field, in Natrona County, has been reorganized as the Fargo Western Oil Co.

New Sinclair Companies

The Apollo Oil Co. and the Sinco Oil Co. have been formed to carry on the oil operations of the Sinclair interests in this region. The Apollo will operate in Colorado and the Sinco in Wyoming, and both firms will be directed by W. L. Connelly of the Mammoth Oil Co.

The Empire Gas & Fuel Co. is seeking patents on about 50 shale oil claims in Sweetwater County, Wyoming, between Green River and Rock Springs.

The Utah Oil & Refining Co. has spudded in its second test on the Black Mountain Dome, east of Thermopolis, in Hot Springs County, Wyoming. It drilled one well last year that found black oil in Tensleep sand, but was shut down during the winter.

The Texas Production Co. brought in a good producer in the north end of the Lost Soldier Field in Carbon County, Section 12-26-90; the sand was found at 2,257 feet with the bottom of the hole at 2,275 feet. This well is an offset to the Bair Oil Co.'s producer that started off at 5,000 bbls. last fall and is an extension to the field on the north.

A. G. Hardendorf and others are to bring water to the Salt Creek Field from the old Tisdale well about 8 miles west of Salt Creek. This well was drilled in 1917 and came in a water gusher from the Tensleep sand. It is proposed to pipe this water to Salt Creek for use in field work and domestic purposes. The Midwest has two 55,000-bbl. tanks and a 6-inch pipe line 50 miles long that brings water from Casper, but it can supply water for only that company's own use and a very little over.

The Bureau of Mines will establish a petroleum laboratory at the University of Wyoming, at Laramie, to be ready about July.

Geologist Irvine E. Stewart, of Montana, passed through Casper en route to Denver, where he is shortly to open an office. Speaking of the situation in the Rocky Mountain region, Mr. Stewart said there was nothing alarming in sight for the oil operator, in fact things looked rather bright for there was no large field in prospect to keep down the price and that as soon as the demand for gasoline became normal crude prices were bound to advance as practically every field in the country was declining and the consumption would soon clean up the present congestion of gasoline now depressing the market.

New Ruling on Leases

The State Land Board of Wyoming has made a ruling that is going to hit the little follows who have bid on State Land leases in the past and caused trouble to the larger operators. Bidders for producing leases must deposit a certified check or other security in the sum of $10,000 before their bids will be considered. A few days ago the Marine Oil Co. and Glenrock Oil Co. were granted a lease on Section 16-39-78 where these companies have been operating for many years and have a good production. Another party is said to have bid against the Marine and Glenrock interests and refused to permit the leasing until an amount of money was turned over to him.

At the annual meeting of the New York Oil Co., held in Casper, E. H. Steiger was reelected president and the other officials were reelected.

The Wyoming Petroleum Club staged a banquet and ball at Casper the past week that exceeded anything of the kind held for several years. The Salt Creek Petroleum Club came in full force with Bart Myers leading. The occasion was staged under the direction of J. C. Lindsay of the Marine Oil Co. as president of the Wyoming Petroleum Club, with Jack Steele of the Bureau of Mines, Lew Kline, of the Continental Supply Co.; George Jarvis of the Victor Wyoming Oil Co., assisting. President Lindsay introduced Governor Brooks as the principal speaker.

The U. S. Geological Survey has sent a corps of geologists and surveyors into Colorado to make a geological survey as a help to the oil operators and others concerned with the minerals. Dr. J. D. Sears will be in charge and Dr. K. F. Mather will be field supervisor.

The Ohio Oil Co., drilling on the Haystack structure, out of Boulder, Colo., is finding considerable shale oil above the sands. The shale oil has come in so freely that the Ohio men are considering stopping the work and testing the shale oil production if it continues to increase.

Recent Montana Strikes

The recent strikes in Montana have brought this State to the front. The new well of the Midwest, about 35 miles northwest of Billings, in Stillwater County, is creating a stampede. On top of this, a 3,000-bbl. well has been brought in at the Sunburst Field in what was considered dry territory.

The strike of the Midwest in the Lake Basin is the most important well drilled in Montana for years. The structure covers about 14 sections though one area is said to run out on the northwest side that will take in another six sections, making the whole area about 20 square miles. Geologists are skeptical about the northwest extension.

The oil is coming from the Dakota sand found at 3,825 feet and the well drilled itself in before it was placed under control. The drilling had been stopped at the top of the sand and no idea of the thickness is had.

This oil is a very odd crude compared to oils from other regions, but familiar to oil operators in this region as it is often found here in small quantities. It is something like the paraffin oil found in the old Macksburg Field in southern Ohio in the nineties except that it contains much more paraffin and grease. There is practically no sulphur. The oil is a liquid about 85 degrees Fahrenheit but becomes buttery below that temperature. It assumes a form something like liver when it comes in contact with cold air, yet if a piece is placed on the hand it immediately melts and becomes to all appearance an ordinary green crude oil.

It contains considerable gasoline, some kerosene and the rest is lubricating stock, vaseline and wax. It has very little tailings or sludge and in the experimental still it refines to a nearly dry still with hardly any residue unless the heat is such as to carbonize the last distillation. This oil should be treated in its crude state in steam stills rather than fire stills as the intense heat of the fire stills would carbonize some of the heavier lubricants and render them into tars and asphalts. With experienced refiners in charge of the plant handling this crude, the products should be excellent lubricants of all grades and specially of the better grade oils and greases.

Gusher in Sunburst

The new gusher in the Sunburst Field is the second surprise of the past week in Montana. This well is on Section 4-34-2w in the southern part of the development and was drilled by the Foster-Sweeny syndicate and the Van Meer Oil Co. The Sunburst sand was struck at 1,190 feet and was dry as expected though the sand was much higher structurally than anticipated. The top of the Ellis sand was found at 1,514 feet and the well commenced to gas at once and show oil. Drilling was stopped about four feet in and the well filled up immediately and flowed in about 15 minutes. The flows continued and production increased at the rate of 100 bbls. per hour for 10 hours. At the end of that time it was still increasing but, as all available tankage was full, the control head was closed and the well shut in. Tankage is now being placed. The well is rated at 3,000 bbls. capacity.

This location was looked upon as a risk for several dry holes have been drilled in that part of the field and the general opinion was that the well would be dry. This well also bears out F. C. Platt's theory recently published in The Oil and Gas Journal that the sand in the Sunburst Field is a deposit upon an eroded bed and much attention has been given by oil men to Mr. Platt's opinion which appears to be a very plausible explanation of the deposition of the Ellis sand that carries the major production in Sunburst.

This theory is that after the upper Madison formation had become eroded, the Ellis sand was laid down and at such points where the underlying formation was hard and resisted erosion, the wells have been dry or having only a small showing of oil.

Runs From Fields

Runs from the fields of the Rocky Mountain regions increased a little the past week, Salt Creek putting out about 1,500 bbls. over that of the previous week's runs.

Salt Creek	94,500
Teapot	2,000
Big Muddy	3,500
Grass Creek	3,550
Elk Basin	1,500
Greybull	75
Mule Creek	2,000
Rock River	3,450
Lance Creek	2,000
Poison Spider	840
Osage	650
Hamilton Dome	750
Lander	900
Pilot Butte	70
Lost Soldier	4,500
Ferris	300
Cat Creek	4,770
Sunburst	4,000
Miscellaneous	600
Total	130,500

Kansas Oil Field News

By C. D. Lockwood

Russell County again broke into the limelight with the news that about 7,000,000 feet of gas was encountered at 2,461-71 feet in Stearns & Streeter's No. 1 Oswald, SE cor. SW SW, Section 8-12-15w, a quarter of a mile west of the M. M. Valerius Oil & Gas Co. and H. F. Wilcox Oil & Gas Co.'s No. 1 Oswald, which has been pumping about 270 bbls. daily for months. At the bottom of the hole in the Stearns & Streeter well, a hard formation was struck which was thought to be possibly the cap rock below which the oil pay would be found. The 10 feet of sand in the well was pure sand and not lime as in the discovery.

The M. M. Valerius Oil & Gas Co. and others' No. 1 Phillips, SW cor. Section 3-13-13w, was cleaning out on the bottom at 2,775 feet without any showing of oil or gas according to best available reports.

In Rush County, Charles F. Noble and others were drilling ahead in their No. 1 Wallace, CSW Section 3-16-16w, after casing off the showing of gas which they encountered. The 10-inch pipe was set at 1,995 feet.

In the Red Bank Pool near Coffeyville, the Reiter Oil Corp. brought in its No. 2 Lowery, SW cor. SW NE, Section 17-35-17, Montgomery County, and it was good for about 100 bbls. from the 1,290-foot sand. This well extends the producing area about 500 feet to the southeast, and it is located just north of the Oklahoma line.

About 8 miles west of the Lamb Pool, Charles Bly's No. 1 Geddes, in Section 12-35-15, found the Wilcox sand at 1,[illegible]

(Continued on Page 117)

The Biggs Boiler Works Co. Akron Ohio

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Made Right—Always Tight

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OCECO EQUIPT

OCECO Equipment For Tanks

Gauge and Thief Hole Covers

Strong heavy cast iron; cover seats in bronze ring—spark proof; self-closing; thoroughly gas-tight.

Roof Manhole Covers

Heavy and substantial; self-closing (or non-self-closing if desired) absolutely gas-tight.

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The OCECO Conservation Vent Unit is set at one-half ounce pressure; forestalls any bulging of the tank.

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Completely assembled unit; assures true alignment of cable passing over and between guide sheaves through stuffing box.

Swing Joints and Connections

OCECO Swing Joints have a shoulder approximately three times the size of that used on the ordinary swing joint—much greater bearing surface; easier operation and less wear to the surface and collar.

Safety Tank Winches

Operated from the ground, no climbing; driven by worm gear—preventing accidental drop of swing line; locks upon removal of handle—tamper-proof.

Approved by The Underwriters' Laboratories, Inc.

FOR 36 years Biggs has **specialized** in steel plate construction.

To this specialization is attributed the enduring character of this company's workmanship.

Just as Biggs has specialized in tanks, so have we specialized in tank equipment.

Now, the customers of The Biggs Boiler Works Company will secure the combined results of years of specialization in both tanks and tank equipment, for all vertical storage tanks erected by this company, in the future, will be fitted with OCECO Equipment.

And, thus, to the enduring quality of Biggs tanks will be added the **more economical operation and maintenance,** the **savings on evaporation,** the **protection against fire,** and the **reduction in insurance premiums** which the use of OCECO Equipment assures.

THE OIL CONSERVATION ENGINEERING COMPANY

Manufacturers of fire-prevention and evaporation-prevention equipment for tanks

Addison Road & N. Y. C. Tracks **Cleveland, Ohio**

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Tampico-Mexico City-Monterrey Republic of Mexico

OCECO

Pennsylvania-West Virginia

By D. S. Wakenight

Southeastern Ohio furnishes best wells, in both shallow and deep territory. Ohio Fuel Supply Co. completion in Hocking County makes 120 first 24 hours, shot, makes 150. Montana Oil & Gas Co. has 75-bbl. producer in Fairfield County. Gasser estimated between 10,000,000 and 15,000,000 feet.

PITTSBURGH, Pa., May 19.—High waters, bad roads, to say nothing of the slump in the credit balance market of the previous week, has put a crimp in contemplated new work in the eastern fields. Many operators are revising their drilling schedule for the spring months and will not drill except where it is necessary to protect lease lines by drilling offset wells. In order to perfect the title to some leases now expiring holders will be forced to drill or forfeit unless an extension can be procured. There will not be a great deal of this kind of work. Most of the work that was shut down during the depression and again started up when the market began to advance early in the year has been completed. The shutdown may not be so general as the last, but will be serious enough to show a very noticeable falling off in new work. Slowing down operations by the gas companies is another factor that will have its effect on field work. The demand for natural gas during the summer months is light and aggressive drilling will not begin before the latter part of the year.

Southeast Ohio Has Best Wells

The southeastern Ohio fields furnished about all of the better-than-average producers during the past week. They are located in both deep and shallow territory. The best of the lot is a deep sander located in the southwest quarter of Section 27, Perry Township, Hocking County. It is the Ohio Fuel Supply Co.'s second test on the James Friend farm and produced 120 bbls. the first 24 hours after drilled through the Clinton sand. It was then given a shot and responded with a production of 150 bbls. the ensuing 24 hours. In Section 10, Rush Creek Township, Fairfield County, the Montana Oil & Gas Co. got a 70-bbl. producer when No. 6 on the Levi Kennedy farm was drilled through the Clinton sand and shot.

In Knox Township, Guernsey County, the Ohio Fuel Supply Co. got one of the best gassers completed in the southeastern Ohio Fields. It is a test on the Benjamin Cornelius farm and was drilled through the Niagara lime. The lowest estimate of its capacity is 10,000,000 feet a day and others estimated it to be one-half higher. In Section 28, York Township, Morgan County, the Berea grit development is strengthening its position for good producers. The latest completion is the Sun Oil Co.'s test on the Charles Switzer farm, one-half mile north of the Pure Oil Co.'s No. 3, on the Ira N. Baringer farm. The well is good for 50 bbls. a day in the Berea grit. This location is farther in advance of production than any other well in the pool.

Light Wells in Licking County

Light wells are the result of late completions in the Berea grit territory in Licking County. In Lot 15, Madison Township, Spindler & Donaldson have a 3-bbl. pumper at No. 6 on the O. C. Irwin farm. In Lot 11, same township, W. W. & A. T. Wehrle got no oil and only a little gas at their test on the D. A. Dwiggins farm. In Lot 13, Hanover Township, the same parties secured a small producer when they drilled a test on the James Watson farm through the Berea grit. In Jefferson Township, Noble County, C. A. Cody has completed in the Berea grit his test on the J. A. Bona farm, a very light pumper. In Aurelius Township, Washington County, the Peeker Oil Co. drilled a test on the J. R. Hutchins farm through the Macksburg 500-foot sand a very light pumper. In Section 10, Grandview Township, Everett Williamson & Co. are through the Big Injun sand at a test on the A. E. Barnett farm. It is a duster. In Section 1, Muskingum Township, C. B. Luton & Co. completed in the Macksburg 500-foot sand a second test on the Wallace P. Wagner farm. It is a duster. In Section 23, Harrison Township, Knox County, F. Marion Snyder & Co. have a light pumper in the Berea grit at No. 13, on the George Miller farm. Two miles southwest of Alexandria, Wells Township, Jefferson County, Thompson & Co.'s test on the Albert Bell farm is a duster in the Berea grit. In Lot 13, Hanover Township, Licking County, the Edward H. Everett Co. is drilling a second test on the F. M. & Kate W. Haynes farm. On Lot 14, same township, the Carter Oil Co. have rig timbers at a second location on the Jacob Vandebar farm.

Duster in Muskingum County

In Licking Township, Muskingum County, 800 feet north of production on Montgomery farm, the Pure Oil Co. has drilled No. 3 on the Finley Fleming farm through the Clinton sand and dry. Nothing was found in the upper formations and it will be abandoned. In Lot 2, Licking Township, Licking County, W. W. & A. T. Wehrle have a light pumper in the Berea grit at a test on the Mrs. Black farm. In Section 35, Coal Township, Perry County, the Chartiers Oil Co. has a fair producer at its No. 187 on the Hocking Valley Products property. The well producer 60 bbls. the first 24 hours after drilled through and shot in the Clinton sand. In Section 23, Perry Township, Licking County, the Carter Oil Co. has drilled its test on the Anna Nethers farm 43 feet into the Clinton sand. The hole filled up 1,000 feet with fluid. Unless it improves when shot it will not make better than a light pumper. In Section 19, Liberty Township, Washington County, Beeson Bailey & Co. have a 5-bbl. pumper in the first Cow Run Sand at No. 3 on the James R. Heslop farm.

Light Wells in West Virginia

Light wells were the offering in the West Virginia fields during the past week. Ritchie County furnished about one-half of the completions. In Clay district, on Bunnells Run, the Chalmers Oil & Gas Co.'s No. 15, on the McGinnis heirs' farm is a light pumper in the Big Injun sand. On Steeles Run, the Helen Oil & Gas Co. has a light gasser at a second test on the Marsh Law farm. In the same locality, the Pittsburgh & West Virginia Gas Co. test on the W. A. Thomas farm is a light gasser in the Big Injun sand. In Grant district, the West Virginia Heat & Light Co. completed and shot in the Big Injun sand No. 3 on the Newton Law farm. It is producing 20 bbls. a day, which is much better than indicated when drilled through the sand. On Gillespie Run, the Reno Oil Co. has drilled a test on the G. B. Rossin farm from the gas to the salt sand and good for 10 bbls. a day. In the same locality, the Hope Construction & Refining Co.'s No. 3 on the Neil Bradley farm, completed last week, has declined from 100 to 60 bbls. a day. The Adams Oil Co.'s second test on the Anna C. Adams farm is dry in the Squaw sand. In Union district, Ritchie County Gas Co.'s test on the W. H. Jones farm is a light gasser in the third salt sand.

Completions Here and There

In Grant district, Pleasants County, the Roberts Oil Co. completed a test on the George Roberts farm, good for 5 bbls. a day in the Berea grit. In Union district, Schlagel & Freid have a duster in the Squaw sand at No. 55 on the J. S. Wells farm. Eight miles west of Pine Grove, Greene district, Wetzel County, the Hope Construction & Refining Co. has a small gas well at a test on the Edward McSwaney farm. In Union district, Tyler County, Samuel & Gale have a 2-bbl. pumper in the Big Injun sand at No. 8 on the Gale heirs farm. In Lincoln district, Marion County, Funk & Null's test on the Eva Neptune farm is a small gesser in the fifth sand. In the same district, the Owens Bottle & Machine Co.'s test on the Clark Wise farm, is a light gasser in the salt sand. In New Milton district, Doddridge County, J. B. Travis drilled his No. 3 on the A. Draner farm through the Big Injun sand and dry. In Washington district, Jackson County, the Carter Oil Co. had the same luck when it drilled No. 3 on the J. M. Hinseman farm through the salt sand. On Elk Run of Two-Mile Creek, Malden district, Kanawha County, the Carter Oil Co. has the rig completed for a wildcat on the Mary E. Stone farm. On Worthington Creek, Union district, Wood County, M. W. Larkin & Co. are drilling on the Henderson-McTaggart farm.

Duster and Light Pumper in Wirt

In Burning Springs district, Wirt County, the Heasley Oil & Gas Co.'s No. 6 on the G. W. Richter farm, is through the Big Injun sand and dry. In the same district, L. E. Shuck & Co. completed and shot in the first cow run sand No. 7 on the W. H. H. Wheaton lot. It is a light pumper. In Grant district, Harrison County, the Hope Gas Co. has now drilled a test on the Reed farm through the fifth sand and is a light gasser. In the same district, the Vesper Oil & Gas Co. made the location for a test on the Abe Myers farm, on Duck Creek, 1 mile southeast of West Milton. In advance of developments on Little Creek, Spencer district, Roane County, the Ohio Fuel Oil Co. completed and shot in the Big Injun sand its test on the Sarah A. Craig farm, reported good for 8 bbls. a day. On Mud River, Grant district, Cabell County, the Commercial Gas Co. completed a gasser in the Berea grit at a test on the J. R. Hall farm. In the same district on Sanders Creek, the Aetna Oil & Gas Co. started to drill a test on the Henry Marcum farm. On Jacobs Run, Ten Mile district, Harrison County, the Raccoon Oil & Gas Co. drilled its test on the George Harbet farm through the Gordon sand showing for a 5-bbl. pumper.

In quite a good many of the old districts in West Virginia, new work is under way and starting. While the greater part of the work is in the nature of tests, they are located in defined territory. In Walton district, Roane County, the United Fuel Gas Co. started to drill on the D. D. Kelly farm. In Washington district, Calhoun County, the Hope Natural Gas Co. made a location and is building a rig on the J. A. Moss farm. The Reserve Gas Co. has the rig completed on the T. P. Barb farm, in Freeman's Creek district, Lewis County. The Reserve Co. contemplated making a deep test, but decided to select a location on some other farm. In Grant district, Harrison County, the Clarksburg Heat & Light Co. is drilling at 1,300 feet on the Thomas P. Reed farm. In Mannington district, Marion County, the Carnegie Natural Gas Co. has made locations on the Frank Toothman, Mary Caseman and Jacob L. Murray farms. In the same district, the Philadelphia Oil Co. is drilling on the W. F. Smith farm. In Clay district, Harrison County, Simmons & Miller are down 1,100 feet on the Southern heirs' farm and have a bad hole.

Ritchie County

In Grant district, Ritchie County, Mellon Brothers & Co. have rigged up on the J. A. Higginbotham farm. West of Ellenboro, Clay district, John Fox has taken a lease on the Fox heirs' farm and let the contract to drill a test well. In Sheridan district, Calhoun County, the Southern Oil Co. has rigged up on the S. M. Maze farm. In Sherman district, the Hope Natural Gas Co. is building a rig on the P. A. Bourne farm. On Henry Fork, Lee district, the Heck Oil Co. started to drill on the W. T. Price farm. On Enochs' Fork, Reedy district, Wirt County, the Carter Oil Co. has a rig completed on the E. J. Smith farm. In Curry district, Putnam County, the Sovereign Gas Co. has a rig up on the Martha E. Lawson farm. In Carroll district, Lincoln County, the Columbia Gas Co. started to drill on the George Stowers farm. In the same district, Roy & McComas are fishing at 1,700 feet on the Kenneth Adkins farm. In Salt Lick district, Braxton County, Miller & Simmons started to drill a second test on the R. Q. Dennison farm. When the first test on this farm was drilled in a few months ago it caused a good deal of excitement, owing to the good showing of oil developed in the Big Injun sand. While cleaning out they got into a fishing job, the tools were stuck in the hole.

Doddridge and Gilmer Counties

In Central district, Doddridge County, the Imperial Oil & Gas Products Co. is drilling at 1,000 feet on the F. M. Britton farm. In the same district, L. M. Williams & Co. have a rig up and tools on location on the C. M. Williams farm. In Southwest district, the Carter Oil Co. is building a rig on the S. M. Gaston farm. In Troy district, Gilmer County, C. S. Morris is rigging up on the M. B. Zinn farm. In DeKalb district, the Hope Natural Gas Co. is rigging up on the Louis Bennett farm. In the same district, the Hope Construction & Refining Co. has a show of oil in the Maxon sand on the F. C. Gainer farm. In the same locality, J. N. Stephens has rig timbers on location on the P. A. Beall farm. In Center district, W. C. Black & Co. are rigging up on the J. L. & R. E. Allsup farm. In Collins Settlement district, Lewis County, McCall & Co. are rigging up on the George Hull farm. In Ravenswood district, Jackson County, it begins to look as if the Henderson Oil Co. had permanently plugged hole at its test on the Hugh V. McCoy farm.

Calhoun and Roane Growing Active

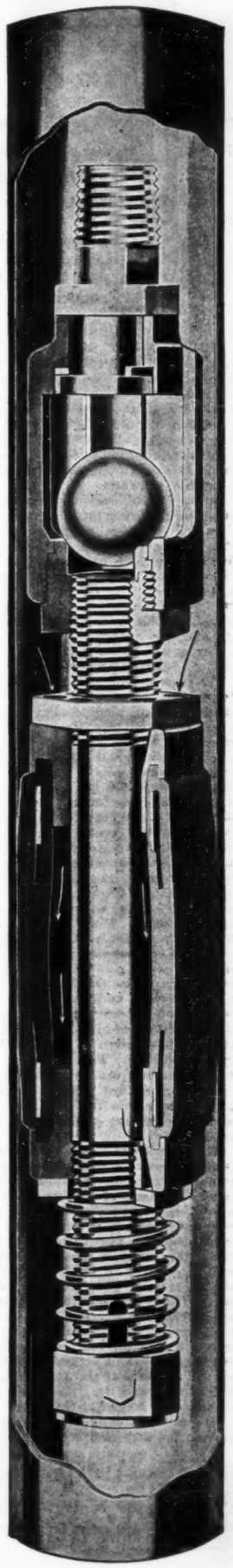
In Washington district, Calhoun County, the Hope Natural Gas Co. is due in the sand on the R. Postalwaite farm. The same company has started to drill on the P. G. Jarvis and moved a drilling machine to a location on the John F. Shafer farm. In Walton district, Roane County, the United Fuel Gas Co. is drilling on the G. M. Smith farm and made locations on the Susan Carper, D. D. Kelly, W. M. Sargent and L. M. Kelly farms. In Union district, Clay County, the Chalmers Oil & Gas Co. has the rig

(Continued on Page 112)

At Last A Perfect Swab

For many years, the Petroleum Industry has waited for this Swab. A Swab was wanted that would do the work right and yet knew when it had a normal load, and would automatically release the excess.

Leidecker Safety Swab



GOING DOWN

The Leidecker Swab offers no resistance when lowering in the casing. The rubber is in normal position, thus allowing the Swab to sink readily through the column of oil. The ball is up, thus rendering free fall of the Swab.

COMING OUT

The Leidecker Swab in being raised, lifts all of the oil above it. The rubber is expanded forming a friction hold on the casing. The ball is seated in this operation. The deepest wells have been swabbed by this operation.

OVERLOADED

Should the load become too great, the spring at the bottom is compressed which releases a trip. The oil is allowed to flow through and relieve the load, the rubber being compressed to normal. As soon as the load is relieved and lifting begins the rubber again expands.

It always assures a free flow of oil without the danger of overloading. Can be used as a packer by simply setting it in the casing.

It's Here—the Perfect Swab

Shaffer Specialty Co.

Tulsa, Oklahoma

Gulf Coast Oil Operations

By P. L. McGreal

Extension of Hull Dome southwest. Texas Co. and Vacuum Co.'s joint No. 2 Hannah flows 2,000 bbls. Gulf Production Co.'s No. 19 Morris-Phillips flows 2,000. Mutual Oil Co.'s No. 2 Booth, Blue Ridge, still flowing 1,200 bbls. Gulf Producing Co.'s No. 157 Wing, Baston Pool, flowing 300 bbls. by heads.

HOUSTON, Tex., May 19.—An extension of the Hull Pool some 400 feet to the southwest and the fact that the 2,500-bbl. completion last week at Blue Ridge, is holding at an average of 1,200 bbls. per day, were features of the week in the Coastal pools. The extension, slight as it is, is significant in this saline dome region. It would be merely considered as a location elsewhere.

In the Coastal region proper the completed wells during the week number 18, of which 11 were worked over holes. The initial production was 3,140 bbls. Seven bailed dry and one salt water. Fifteen wells were bailing at the close of the week. In the southwest light gravity fields nine wells were completed with 2,630 bbls. initial output. One was dry and one a gasser. Four tests are bailing at the end of the week.

Gross Daily Average

The gross daily average production for the week in the Coastal region and the southwest fields, not including Luling, is placed at 88,087 bbls. compared with an estimate of 88,300 bbls. last week. This is a decrease of 213 bbls. the estimate for the Coastal pools is placed at 78,472 bbls. against 81,890 bbls. last week. The estimate for the Luling Field is now placed at 32,000 bbls., compared with 28,000 bbls. last week.

A wide divergence is noted in the various estimates concerning the gross daily average in the Gulf Coast heavy gravity pools. These estimates range down as low as an average of 67,000 bbls. per day. These low figures are based on pipe line runs from the wells and ignore oil used for fuel by wells drilling or such as goes into lease tankage for storage. The emulsified oil is likewise ignored, notwithstanding it is treated out in every pool and a very high percentage of pipe line oil recovered. The estimates given in these tables are gross production. Fuel oil has to be accounted for as a charge against the lease and the emulsified product eventually finds its way into the pipe lines, hence becomes a revenue producer and a market factor.

The experiences of the past in all sections demonstrate that nothing is to be gained by attempts to minimize production in the hope of holding prices. The pipe line companies know the actual conditions and base credit balance quotations upon this knowledge. It is not believed the slump in North Texas fields will be reflected in the Gulf Coast division at present. There is a good demand for the Coastal product from Atlantic seaboard refineries, where it is replacing the higher grade Pennsylvania product to a certain extent for lubricating oils. The Coastal crude can be transported in tankers and delivered at the Atlantic seaboard refineries cheaper than the Pennsylvania crude can be bought at the wells.

The estimate daily average gross production for each district is as follows:

District—	Gross Bbls.
Batson	1,675
Blue Ridge	1,860
Barber Hill	190
Dayton	85
Damon Mound	1,645
Edgerly	540
Goose Creek	12,450
Humble	5,100
Hull	18,050
Jennings	545
Markham	32
Orange	11,600
Pierce Junction	565
Spindletop	970
Saratoga	1,560
Sour Lake	4,475
Vinton	5,110
Welsh and Anse La Bute	85
West Columbia	11,885
Total	78,472
Southwest Fields—	
Laredo	4,125
Somerset	2,505
Milam County	585
*Miscellaneous	2,400
Total	88,087
Luling	38,000
Total	126,087

*Includes Calliham, Nacogdoches, Big Creek, Big Hill, Hockley, High Island, Stratton Ridge, etc.

Tank car shipments from Sullivan siding on the Southern Pacific Railroad averaged 100 cars per day last week. Crude from the Guadalupe County side of the Luling district is shipped from Sullivan siding. Tanks loaded at Oiltown station on the Aransas Pass and San Antonio Railroad average 25 per day. The product from the old, or Caldwell County side of the field, is shipped from Oiltown.

Coastal Operations

In the Orange Pool, the Edgerly Petroleum Co.'s No. 10 Carbello is pumping 75 bbls. at 3,600 feet. The Orange Petroleum Co.'s No. 3 Chesson bailed salt water at 3,000 feet. The Sun Oil Co. is swabbing No. 4 Brown in the southeast extension at 4,660 feet. Same company abandoned No. 1 Kato to the northeast of production after bailing salt water at 4,650 feet last week.

The Sun Oil Co.'s No. 5 Brown is drilling below 4,100 feet. The Brownie Babbittee Oil Co.'s No. 2 Brown is around 4,560 feet and No. 3 below 1,125 feet. The Rycade Petroleum Co.'s No. 3-E State land is drilling around 3,000 feet and No. 4-E at 980 feet. No. 3-A is around 3,408 feet. The Gulf Production Co.'s No. 15 Hager fee is drilling at 3,614 feet. No. 4 Pevito is below 3,450 feet and No. 7 at 2,345 feet. No. 9-A Winifree is at 1,260 feet and No. 1 Oscar Chesson at 2,810 feet. No. 1 Consolidated is deepening at 4,530 feet.

The Humble Oil & Refining Co.'s No. 18-B Chesson is at 2,980 feet working over. It is rigging to work over No. 4 Winifree. The Mutual Oil Co.'s No. 1 Chesson is deepening at 4,175 feet and No. 5 is fishing for liner at 4,260 feet. The Kishi Development Co.'s No. 2 Smith-Foreman is deepening at 4,150 feet and No. 5-E Kishi is drilling at 2,745 feet. The Supreme Oil Co.'s No. 2 Jackson is deepening at 3,680 feet. The Gulf Coast Oil Co.'s No. 5 Leon is around 3,090 feet. The Orange Petroleum Co.'s No. 4 Winifree is around 3,335 feet and No. 3 Chesson at 3,180 feet with No. 7 Chesson at 785 feet. Northeast of production, the American National Oil Co.'s No. 1 Winifree is drilling at 4,560 feet.

Eight of the 25 tests drilling in the Orange Pool are below 4,000 feet and four of the eight are around 4,600 feet.

Hardin County Pools

In the Batson Pool, the Gulf Production Co.'s No. 156 Wing is pumping 100 bbls. at 1,100 feet. No. 157 Wing, which staged a surprise 10 days ago by suddenly starting to flow by heads making 2,000 bbls. from a 60-bbl. pumper, is averaging 300 bbls. by heads this week. The Ada Belle Oil Co.'s No. 70 Paraffine is a 25-bbl. producer at 1,080 feet. The Duetser Oil Co.'s No. 1 Hooks is a duster at 1,330 feet and its No. 7 Trustee is bailing at 695 feet.

The Gulf Production Co.'s No. 158 Wing is drilling at 455 feet with No. 159 rigging to start. S. R. Buchanan is rigging No. 76 Milhome and the Ada Belle Oil Co.'s No. 72 Honeymoon. The East Batson Oil Co.'s No. 2 Crary is drilling at 835 feet and No. 6 Allen is shut down. The Sun Oil Co.'s No. 72 Paraffine is drilling at 765 feet and the Paraffine Oil Co.'s No. 37 fee is starting to drill.

In the Saratoga Pool, the Regna Oil Co.'s No. 15 Cotton bailed dry at 1,018 feet, as did the Paggi Brothers Oil Co.'s No. 42 Queen City at 1,020 feet.

The Gulf Production Co.'s No. 1 Teel is drilling at 3,235 feet. Paggi Brothers Oil Co.'s No. 4 Davis is below 1,060 feet. The Weldon Oil Co.'s No. 5 is drilling at 1,224 feet. The Rio Bravo Oil Co. cemented casing in No. 83-B at 1,910 feet and will make another test. It bailed salt water last week at 2,600 feet. Same company is pulling screen from No. 2-P. It, too, bailed salt water at 1,950 feet and will be deepened.

In the Sour Lake Pool, The Texas Co.'s No. 251 fee is bailing at 1,980 feet. It is a worked over hole. Jackson, trustee, No. 11 Carpenter, is drilling at 800 feet. The Minor Oil Co.'s No. 70 fee is drilling at 1,480 feet. The Gilbert Oil Co.'s No. 93 fee is drilling at 455 feet. The Lake View Oil Co.'s No. 5 Minor is at 1,980 feet. The Humble Oil & Refining Co.'s No. 37 Hardin is at 2,135 feet.

Liberty County Pools

The Texas Co. and Vacuum Oil Co.'s joint No. 2 Hannah on the southwest side of the Hull Dome was completed at 3,040 feet, flowing 2,000 bbls., 21 gravity. It is 450 feet west from No. 1 of the same joint account and the farthest west of any well on that side of the dome. However, its greatest significance to the geologists and others students of saline domes lies in the fact that the well is 3,500 feet from the salt core. Wells are rarely found much beyond 2,000 feet distant from the salt and then only on one or two sides of the dome. Hull differs from any of the other pools in that production is found on all sides of the dome.

On the west side, the Gulf Production Co.'s No. 13 Hannah fee was abandoned in salt at 3,630 feet. The Monarch Oil & Refining Co.'s No. 4 Miller is bailing at 3,065 feet. On the north side, the Humble Oil & Refining Co.'s No. 2 Merchant is bailing, as is the Yount-Lee Oil Co.'s No. 9 Merchant at 4,300 feet. The Red Cantor Oil Co.'s No. 2 Cantor on the dome is bailing at 410 feet. On the east side, the Republic Production Co. and Houston Oil Co.'s No. 69 Dolbear, a workover, is pumping 125 bbls. at 2,980 feet. On the southeast side, the Gulf Production Co.'s No. 7 Thomas fee is bailing at 3,000 feet.

On the south side, the Sun Oil Co.'s No. 6 Carr is drilling at 2,135 feet. On the west side, the Gulf Production Co.'s No. 12 Hannah fee is below 5,005 feet and No. 14 is around 3,700 feet. No. 11 is rigging. The Monarch Oil & Refining Co.'s No. 1 Abel is deepening at 2,322 feet and No. 8 is drilling at 2,410 feet. On the northwest, the Gulf Co.'s No. 6

(Continued on Page 122)

West Kentucky-Tennessee

By Vern T. Whitney

BOWLING GREEN, Ky., May 19.—The western Kentucky fields still show a great deal of activity, with the result that there was a considerable increase in the total production of April over March. Since the production mounted to a peak in 1922 oil runs steadily declined until January of this year, when each month has shown a tidy increase, the total production of the district being equal to what it was over a year ago. New pools discovered in Barren, Cumberaund, Monroe, Ohio and Hancock counties are responsible, greatly encouraging wildcatting, which had almost reached the vanishing point a year ago. The gas pressure in these new pools has been little affected by the drilling which has gone on around them for the last few years and all signs point to a renewal of general activity if the price structure hardens.

The drop of 31 cents in Warren, Simpson, Allen, Ohio and Hancock, coupled with a 25-cent decline in Cumberland, Monroe and Barren came as a most unwelcome surprise, exceeding as it did the drop even in the Pennsylvania market, and will undoubtedly check development in this territory where high priced oil is so essential to the operator.

The total production for April in western Kentucky was 132,583.72 bbls., an increase of 6,188.86 bbls. over March. Allen County led in the increase with a gain of 6,821.16 bbls., which is remarkable considering that this is one of the oldest producing counties in the field.

The runs were distributed by counties as follows:

County—	Runs	Inc.	Dec.
Warren	52,140.97	.....	434.40
Allen	40,630.16	6,821.16	.....
Cumberl'd-Monroe	20,704.08	34.83	.....
Owensboro	8,154.79	.....	304.31
Barren	7,672.26	366.03	304.31
Simpson	2,449.23	47.75	.....
Hopkins	832.23	.....	142.79
Total April	132,583.72	7,269.80	1,080.94
Total March	126,394.86		
Difference	6,188.86		

Week's Work

The week started out with a large number of completions, but the stormy weather resulted in almost a total shut down for the last half of it. As it is, the week shows 33 completions, 26 of which were producers with an initial yield of 985 bbls. and 7 dry holes. Compared with last week this shows 4 less completions and the same number of producers with increased flush of 333 bbls.

Warren County News

Ten completions were recorded in Warren County with 9 producers and 1 duster. The feature well was completed by the Wood River Oil Corp. in its No. 8 Barbee, adjoining the famous Shannon lease, in the Rockfield shallow district. The well reached the pay at about 410 feet, came in flowing and is conservatively estimated at 200 bbls. initial. This section was drilled two to three years ago and the finding of such a large well now comes as a great surprise.

In the McLemore-Gillespie-Price section two good shallow and two good deep

(Continued on Page 121)

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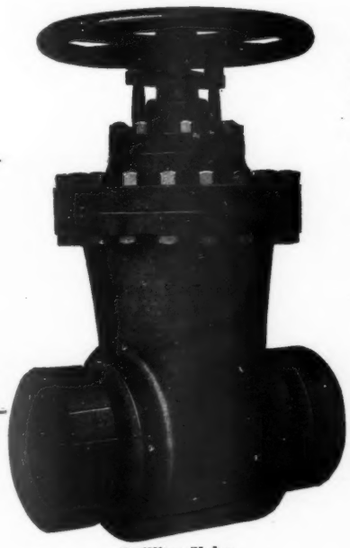

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Fields of the Central West

By Whit

Cashdollar wildcat extends Newport Pool, Shelby County, Ohio, Klise-Eckstein-McCann estimated 35-bbl. well in Wayne County. Union Gas & Oil Co.'s No. 20 J. H. Skaggs, North Weir, Kentucky, 100 bbls. flush. Beaver Petroleum Co. gets 50-bbl. producer in Wayne County.

FINDLAY, Ohio, May 19.—There are very few new wells starting up in the Central West, although a number of important tests are planned, now that the weather shows improvement. There is some excitement around Newark, in the Central Ohio area of the recent find made by the Wehrle people, in Licking County. The fact that this well found its pay in the Trenton Rock has brought about a change in the prospects of another pay sand in the territory known as the Clinton Lime fields. A record of this well received from Mr. Bishop, who keeps posted on Licking County, is of interest. The actual depth was 4,375 feet and the pay sand found at a depth of 666 feet in the Trenton, although some geologists report the Trenton is not that thick and it must be the St. Peter sand. The writer knows from his own observation that close to 900 feet of Trenton was drilled through on the ex-President Hayes farm, in Portage Township, Wood County, in the early days of the Lima Field. This is by no means the first well to be drilled in the Trenton in Licking County, for months ago the Empire Gas & Fuel Co. drilled a deep hole on the Mossholder farm, southwest of Alexandria, and the Wehrle well is about 12 miles due east. In the Mossholder well a gritty spot was found at around 600 feet in the Trenton and the supposition is that the Wehrle well got its oil in this grit part of the sand. The oil is 44 gravity. As nearly as can be figured, there have been three wells in Licking County sent down into the Trenton; two had showings of oil and gas, and the Mossholder well was dry. The Mossholder well was drilled 3 miles from the west edge of the old Clinton sand belt. The Wehrle well was very much like the Mossholder. It was drilled last fall to the Clinton sand, and it made a small flow in that formation, early in the winter, when something happened to it, so the Wehrles decided to try for the Trenton Rock. The well has 200 feet of 8-inch drive pipe and about 600 feet of 6⅝-inch casing in it when drilled in, and that sized casing was carried into the Trenton. When the pay was found it made considerable gas, which caused the brown shale above the Trenton to cave in. A string of 3,750 feet of 5⅛-inch casing was set on a packer. With no more gas than they had they did not expect it to flow, so no provision was made, but it let loose and spilled around 100 bbls. The well was left standing for three days, then started swabbing 40 bbls. per day and there are still 30 feet of cavings in the hole.

Small Producers Rule

Few completions are reported for the week from the Lima Field of Northwestern Ohio, and all are rather small producers. In Liberty Township, Wood County, W. E. Connelly's No. 2 on the northwest corner of the S. F. Hodgman, Section 4, pumped 2 bbls. at 1,497 feet. In Perrysburg Township, E. C. Copus drilled a dry hole in a test on the Delcy Speck, Section 32.

In Union Township, Hancock County, Harpst Brothers' No. 13, on the southwest corner of the Henry Schwinn, Section 1, pumped 12 bbls. In Woodville Township, Sandusky County, the Inter State Operating Co.'s No. 7 Edward Obermyer, Section 27, pumped 8 bbls. at 1,290 feet.

In Gibson Township, Mercer County, C. E. Smith and others' No. 3 Ben Brunswick, Section 35, pumped 2 bbls. at 1,222 feet. In Union Township, A. E. Kuhns and others' No. 9 Alonzo Archer, Section 6, pumped 8 bbls. In Butler Township, O. J. McGuiggan and others' No. 1 Joseph Winning, Section 31, is reported showing for 20 bbls. In Jefferson Township, the June Oil Co.'s No. 2 Downing & Dehayer, Section 33, pumped 5 bbls.

In the Tiffin Field, in Eden Township, Seneca County, the Sun Oil Co.'s No. 6, on the southeastern corner of the S. A. Barhoff, Section 15, proved to be a dry hole. Top of sand struck at 1,652 feet and drilled 300 feet in to a total depth of 1,952 feet.

In the Elmore Field, in Harris Township, Ottawa County, the Zorn-Hornung Co.'s No. 7 Belle Clay, Section 20, pumped 12 bbls. from 1,324 feet. The Onsel-Hanrahan Oil Co.'s No. 7 H. F. and E. A. Hilgenick, Section 20, pumped 1 bbl. at 1,334 feet, and C. D. Walters' test on the John Luckey, Section 18, pumped 4 bbls. and looks as though the field would extend to the north side of the Portage River.

Five miles to the northeast of the Newport Pool, in Cynthian Township, Shelby County, Mr. Cashdollar of Pittsburgh, has drilled in a wildcat well on the John Zimmerman farm, Section 15. The well has considerable gas and was tubed with a packer and flowing about 10 bbls. of oil a day. The Trenton was tapped at around 1,290 feet and pay found at 20 feet in. This looks like a long extension of the Newport Pool, or the making of another pool, the latter most likely. This well is 3 miles to the southeast of Fort Loramie. The same party is moving on the Henry Danzig farm across the road from the Zimmerman well. Slagle & Johnson have a number of leases close by as has the Ohio Oil Co. The Buckeye Pipe Line Co. has its line about completed to the Broerman and the Eilerman wells, in the Newport Pool. Lee Watson has a nice gas well on the John Sherman farm, a half mile west of the Broerman wells and has moved his machine to the J. H. Barhorst farm, a short distance south.

Illinois

The wildcat well of the W. C. McBride, Inc., on the southeast corner of the H. Chambers farm, Section 19, Morgan Township, Coles County, Illinois, is reported a dry hole at a depth of 1,040 feet. In Johnson Township, Clark County, the First National Bank of Parkersburg, W. Va., drilled in No. 3 on the southwest corner of the Joseph Claypool, Section 12, and pumped 1 bbl.

In Bridgeport Township, Lawrence County, Snowden & McSweeney abandoned Nos. 4 and 12 H. K. Seed farm, Section 29. In Centralia Township, Marion County, Bays and others abandoned No. 1 Mackey-Mellick, Section 30.

Central Ohio

Many new locations for wells are being made throughout the Central Ohio oil and gas belt, the larger percentage being staked out by the gas companies, which means that shortly after the close of the annual convention of the Natural Gas Association of America, which is in session at Cleveland, Ohio, this week, the gas industry will become active, in a hunt for a supply for the coming winter's patrons of the many gas lines leading from the fields. The oil people are also getting busy, but the drop of 25 cents in the market price of crude, may have some effect on wells that were planned, especially for the deeper Clinton lime formation, where wells cost close around $15,000 each. The cut in the price will have little bearing on the shallow oil territory, for the cost is so small, the quarter will hardly be noticeable. There are numerous wells over the field that have been drilled in and are now under the cleaning out process, many located within the Clinton sand gas fields, and showing some oil, so when actually completed their value can be announced.

In Wooster Township, Wayne County, the Ohio Oil Co.'s third test on the Peter Shelley farm, Section 20, is being cleaned out and is reported showing for a commercial producer. This company's test on the Edward Uhl, Section 5, Franklin Township, same county, is reported as good for 5 bbls. In Cannan Township, same county, the Klise-Eckstein-McCann Co.'s test on the W. C. Oneacre farm, Section 23, is estimated at 35 bbls, while No. 1 on the W. M. Litchtey, Section 21, that was reported dry, is being touched up a little and then cleaned out in hopes of making at least a light pumper of it. In Monroe Township, Holmes County, the Central Ohio Gas Co.'s second test, on the James Johnson farm, Section 10, is estimated at 20 bbls.

In Newcastle Township, Coshocton County, the Logan Gas Co., gave its test on the W. Ringwalt farm a shot and the well produced 24 bbls. the first 24 hours.

The Cleveland Field is once more coming to the front, as the East Ohio Gas Co. has drilled in a 1,000,000-foot gas well at a test on the C. Stetler farm, Lot 98, Strongville Township, Cuyahoga County, and made a location for a test on the J. F. Pierce 42 acres, Lot 97, same township.

Richfield Township, Summitt County, is credited with two new completions. The East Ohio Gas Co. drilled in a fairly good gas well at a test on the E. M. Morton, Section 19, and made locations for No. 1 on the Rex Rabb 124 acres, Section 2 and No. 1 on the S. Feasley 20 acres, Section 18. The Klise-Eckstein-McCann Co. drilled a dry hole in a test on the Alfred Newton farm, Section 1.

In Jefferson Township, Knox County, the East Ohio Gas Co. struck a very good gas well at a test on the J. W. Lower 160 acres, Section 14, and has a location for No. 3, same farm. In the same township, the same company drilled a dry hole in No. 1 on the William Bailes 80-acre farm, Section 17, and located No. 2 on the William Bales 40 acres, Section 14.

Ashland County

In Hanover Township, Ashland County, the Ohio Fuel Gas Co. drilled an average gas well at a second test on the J. F. Jones, Section 17. In the same township, the Logan Gas Co. is drilling No. 1 George Carnagy 100 acres, Section 23, and located No. 2, and drilling No. 2 on the Fred Feichter 120 acres, Section 22. In Orange Township, same county, the Logan Gas Co. is drilling No. 1 J. R. Sprott 75 acres, Section 8. In Vermilion Township, the Hawk Gas Co. has a light gas well at No. 1 James Atterholt farm, Section 25, and the Logan Gas Co. made a location for a test on the C. E. Ritchie 80 acres, Section 2.

In Medina County, Liverpool Township, the Ohio Fuel Gas Co.'s test on the Mat Hinkle, Section 13, is a duster, and the Wiser Oil Co. is drilling a second test on the Charles Frambaugh 28 acres, Section 23. It Litchfield Township, the Logan Gas Co. made locations for No. 2 on the Frank Walter 10 acres, Lot 56; No. 1 on the John E. Kennedy 32 acres, and No. 1 on the John Schultz 35 acres, in the same section. In York Township, the same company made locations for No. 1 John Morelock 50 acres; No. 1 William Haring 40 acres, Section 6, and No. 2 George L. Morelock 102 acres, Section 7. Daugherty Brothers drilled an average gas well in No. 1 John Kremer, Lot 14, same township.

In Chippewa Township, Wayne County, the East Ohio Gas Co. is drilling a test on the H. Steiner 38 acres, Section 28, and the Logan Gas Co. made a location for a test on the John E. Meeks 183 acres, Section 29. In Wayne Township, the Klise-Eckstein-McCann Co.'s No. 3 Martin Cole farm, Section 4, is an exceptionally good well. In Plain Township, the East Ohio Gas Co. abandoned its No. 1 location on the Kate Brown farm. The Logan Gas Co. is drilling No. 2 Ora Flickinger 68 acres, Section 8, and No. 1 J. W. Horn 88 acres, Section 18. In Cannan Township, same county, the Logan Gas Co.'s No. 1 U. A. Russell, Section 21, is cleaning out with a showing of both oil and gas, and its No. 1 E. T. Kissinger, Section 9, is going through the same process, with a showing of oil. This company made a location for No. 1 on the Ed Betz 20 acres, Section 16. The Ohio Fuel Gas Co. drilled an average gas well on the A. C. Wiles farm, Section 16. Daugherty Brothers drilled a nice gas well at a test on the F. Fike 80 acres, Section 22. This firm has made locations for No. 2 J. Slemons 163 acres, Section 24, and No. 2 on the F. A. and M. Snell 25 acres, Section 29. George Gertenslager and others are drilling No. 3 on the F. Fike 80 acres, Section 28. The Central Ohio Gas Co. is drilling No. 1 on the I. Steines 81 acres, Section 23, and Arthur & Mills made a location for No. 2 on the A. W. Latimer 135 acres, Section 22.

In Benton Township, Hocking County, the Logan Gas Co. drilled a nice gas well at No. 3 A. L. Unger, Section 3, and made a location for No. 2 on the C. H. Rathbone 80 acres, Section 28.

In Monroe Township, Holmes County, the East Ohio Gas Co. struck a fairly good gas well at a test on the Gilbert Johnson heirs' farm, Section 16. This company has started the drill at Nos. 1 and 2 on the W. A. Smith 50 acres, Section 4, and made a location for No. 2 on the Gilbert Johnson heirs' 62-acre farm, Section 16. Central Ohio Gas Co., has started the drill at No. 1 C. H. Smith, Section 2, and No. 1 on the Oscar Corns 100 acres, Section 3. Klise-Eckstein-McCann Co. is drilling No. 1 Charles Barnes, Section 7. In Hardy Township, the East Ohio Gas Co. made locations for Nos. 3 and 4 Jacob Uhl 100 acres, Section 23, and No. 3 on the J. R. Forgy 90 acres, Section 10.

In Troy Township, Athens County, the Logan Gas Co. has made a location for a test on the S. J. and Ivy Wildman 83 acres, Section 24, also a location for a test on the E. S. Stewart 100 acres, Section 10, Waterloo Township, same county. The Logan Gas Co. made a location for No. 1 on the J. W. Kincade 132 acres, Section 9, Carthage Township, same county.

Medina County

In Litchfield Township, Medina County, the Logan Gas Co.'s No. 1 W. A. McIntosh farm, Lot 55, was a dry hole, as was Dillon & Frederick's No. 1 George Moxworthy, Lot 56. The Ohio Fuel Gas Co. made a location for No. 1

(Continued on Page 110)

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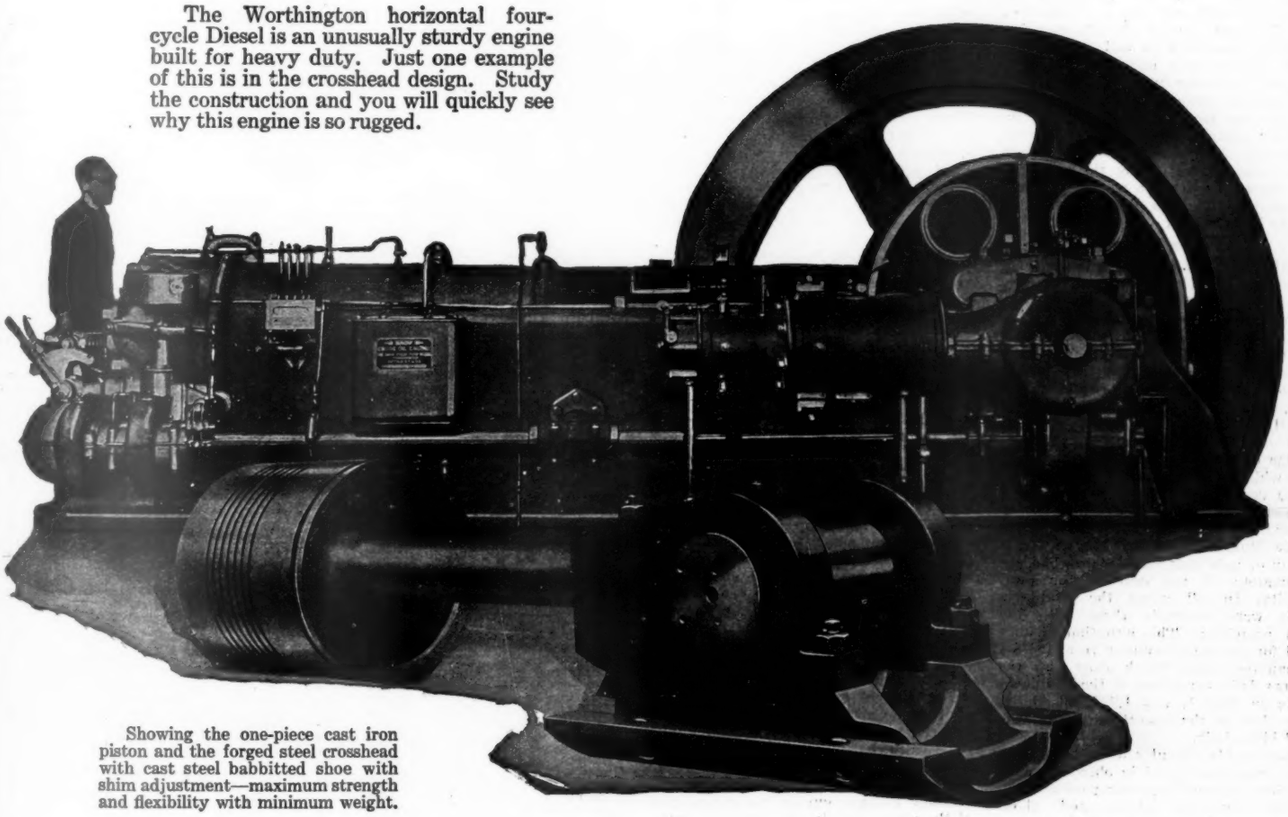

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Total of 563 Refineries in United States

Nation Wide Survey Shows 362 Operating on May 1; 164 Plants Have Cracking Processes. Operations by States Given

By C. O. Willson

Out of a total of 563 refineries in the United States, 362 were operating on May 1, according to a nationwide survey just completed by The Oil and Gas Journal. The 563 refineries had a total indicated capacity of 2,930,640 bbls. daily, while the capacity of the operating plants was 2,549,490 bbls. daily.

The report which is the first to be compiled for the entire United States since that of the Bureau of Mines published early in 1922, shows that refining capacities and actual operations have largely increased in a majority of the refining areas. The two reports as of January 1, 1922 and May 1, 1924, show that the total number of refineries has increased from 479 to 563 or approximately 17 per cent during that period. The total increase in the capacities of these plants, however, was 35 per cent for the same period. A 37 per cent increase in capacity is shown in the operating plants. This shows that the enlarged refinery operations during the past 2¼ years comes not so much from new plants as from the expansion program of plants already in operation.

Cracking Processes

Realizing the increasing importance of the so-called cracking plants in refinery operations, The Oil and Gas Journal included in its survey a check of the installations throughout the United States. The report shows that on May 1, 164 plants had one or more types of cracking processes installed at their refineries. It is significant that of this total 148 were actually operating on May 1. This is proof of the contention that the percentage of refineries with cracking processes which are operating, is greater than in the case of plants which do not include cracking in their operations.

Although 201 refineries were shut down in the United States on May 1, it is worthy of note that these plants had approximately 13 per cent of the total capacity. In all areas the shutdown plants were generally those with the small capacities. This situation is indicated for the entire country from the accompanying tables which show that the average daily capacities of the shutdown plants on May 1, was 1,927 bbls daily, while that of the operating plants was 7,042 bbls. daily.

Considerable difficulty in compiling the report was experienced in obtaining data regarding the small operating refineries—usually skimming plants—and those shut down. In the latter case there were many plants which were not owned by companies or individuals engaged in refining or any other phase of the oil business. In several instances the original owners of the plant had gone bankrupt and the property had passed through several hands within a period of two years. The present owners in these cases had finally come into possession at a cost figure which was only a small fraction of the original outlay when the plant was constructed.

Plants Out of Repair

These owners have made no attempt to keep the plants in repair. In cases where it could be accurately determined that the plants had been partially or wholly dismantled they were dropped from the accompanying tables for it is apparent that they should not be considered as potential refining capacity. However, in many cases, it was impossible to accurately classify these shutdown plants. In numerous cases, the plants are in fair state of repair and although not owned by oil concerns at the present time, there is a possibility that they may be taken over at some time by oil companies, repaired and operated.

Of the 201 shutdown refineries, it is estimated that two-thirds will never again be operated. This indicates that a far more accurate gauge of actual potential refining capacity can be secured by considering only the plants in operation. It was due to this condition that great care to distinguish between the shutdown and operating plants, was taken in the compilation of this report.

As previously stated, a majority of the refining areas have increased their capacities since the Bureau of Mines' report of January 1, 1922. Dividing the refining area by States, the capacity of the operating plants in California since 1922 has increased from 314,360 bbls. daily to 626,200 bbls., or approximately 50 per cent. The increased capacity of the California plants which is a direct outgrowth of the larger crude production which got under way late in 1922, is accounted for by new plants and the enlargement programs of the major refining interests of the West Coast which have been operating for years.

Overbuilt in California

It is apparent that California, due to the large flush crude production of last year, duplicated the past action of the Mid-Continent and several other producing areas, in that it has overbuilt its manufacturing division. When the crude production was mounting by the thousands of barrels weekly over a greater part of last year, the pipe line and storage facilities of the major oil interests of the West Coast were not adequate to handle the new production. Distress crude was available and new refineries were built with the view of handling this excess crude supply. A further duplication of the past is revealed in the fact that the distress crude disappeared in several instances before the plants were completed. Some plants were completed and operated for a short time, but are shut down at the present time, due to the tightening crude situation which developed almost over night.

Great difficulty was experienced in securing a check on these shutdown plants of the West Coast. They also have changed names several times and it was practically impossible to get in touch with the present owners. The second noteworthy feature of the California operations brought out in the compilation of the report, lies in the increased operations of the companies which were operating previous to 1922. This increase in individual cases amounts to 50 to 500 per cent increase in operating capacity.

East and Gulf Coast

The greater capacities of the Atlantic Seaboard and Gulf Coast refining areas is also partially a development of the larger California crude production. To care for this crude it was not only necessary to increase refining capacity of the California area, but refineries located along the East Coast found it expedient to enlarge their operations to handle the crude shipped by water from the West Coast fields. This situation largely accounts for the increase in Massachusetts operating capacity from 35,000 to 62,000 bbls. daily; New Jersey from 224,000 to 243,000 bbls.; and Louisiana from 114,350 bbls. to 174,630 bbls.

Texas operating capacity increased from 345,150 bbls. to 450,300 bbls. daily. This increase comes almost entirely from the enlarged operations of the Gulf Coast plants, some of which have also been operating in part on California crude. There has been practically no change in the total operating capacities of the North and Central Texas areas.

The total capacities of the Pennsylvania plants and those of the States of the Middle West have also ben increased during the past year. This increase can be accounted for by the enlarged capacities of the major plants in those sections.

Oklahoma and Wyoming

Oklahoma and Wyoming are the only two major refining States whose operating capacities at the present time are approximately the same as on January 1, 1922. The capacity of the Oklahoma plants on the latter date was 234,650 bbls. daily and at the present time as shown by the accompanying table it is 231,400 bbls. Some of the plants listed in the Government report have been dropped, as a few plants have been shut down and dismantled since that time. This loss, however, has been partially offset by three new plants. The fact that Oklahoma refinery operations have not increased in line with that of entire United States as a whole is due to the development of the market situation during the past two years, which has been uniformly unfavorable from the standpoint of the Oklahoma refiner.

There has also been little change in the operations of the Wyoming plants considered as a whole. That area is not located in regard to a consuming market to merit a large expansion in its refinery operations. The fact that the crude production has not shown any large increase during the past two years also accounts for the unchanged refinery situation. The fact that the Wyoming fields now have a pipe line outlet for their crude is a further factor.

There has been no great change in the operating capacities of the remaining States with the exception of Kentucky. This State has been building up its refinery capacities largely through small plants. The operating capacity since 1922 has increased from 13,900 bbls. to 20,550 bbls.

The accompanying tables give a recapitulation by States and also list the individual plants by States. Reports of 90 per cent of the plants were secured by The Oil and Gas Journal sending out questionnaires to individual companies. Reports on the remaining plants were largely secured by The Oil and Gas Journal representatives located in all parts of the United States. The capacities cover plant operations when all manufacturing units are being operated.

REFINERY OPERATIONS SINCE 1914

	Completed	Indicated Dy. Capacity
1914	176	.....
1918	267	1,136,155
1919	289	1,294,115
1920	373	1,530,565
1921	415	1,888,400
1922	479	2,164,050
1924	563	2,930,640

Note: The 1924 report was compiled by The Oil and Gas Journal and the remainder by Government bureaus.

RECAPITULATION BY STATES

State—	No. of Plants	Capacity	No. Plants Oper'ng	Operating Capacity	No. Plants S. D. or Bldg.	S. D. Capacity	Crack'g Process— Total	Op.	S. D.
Arkansas	17	38,650	10	27,950	7	10,700	6	4	2
California	79	663,750	59	626,200	20	37,550	15	13	2
Colorado	3	1,900	2	1,700	1	200	1	1	0
Georgia	1	5,000	1	5,000	..	.....	1	1	0
Illinois	15	97,250	11	82,250	4	15,000	7	7	0
Iowa	1	1,800	1	1,800	..	.....	1	1	0
Indiana	7	89,650	4	86,700	3	2,950	4	3	1
Kansas	35	132,600	20	109,200	15	23,400	16	14	2
Kentucky	14	24,550	12	20,550	2	4,000	5	4	1
Louisiana	29	206,730	17	174,630	12	32,100	8	8	0
Maryland	4	49,000	4	49,000	..	.....	3	3	0
Massachusetts	3	62,000	3	62,000	..	.....	3	3	0
Minnesota	1	1,000	1	1,000	..	.....	0	0	0
Mississippi	2	5,250	1	250	1	5,000	0	0	0
Missouri	5	26,300	2	21,800	3	4,500	1	1	0
Montana	7	8,600	3	5,300	4	3,300	0	0	0
New Jersey	11	249,500	9	243,500	2	6,000	4	4	0
New York	4	21,300	3	21,100	1	200	1	1	0
Ohio	13	53,800	12	53,200	1	600	7	7	0
Oklahoma	103	353,600	52	231,400	51	122,200	25	21	4
Pennsylvania	61	153,710	49	135,910	12	17,800	20	17	3
Rhode Island	2	15,000	1	10,250	1	00,000	0	0	0
South Carolina	1	10,000	1	10,000	..	.....	1	1	0
Tennessee	2	1,700	1	500	..	.....	1	1	0
Texas	120	545,300	63	450,300	1	1,200	0	0	0
Utah	1	6,000	1	6,000	..	.....	1	1	0
Virginia	1	5,000	1	5,000	..	.....	0	0	0
West Virginia	5	10,250	5	10,250	..	.....	2	2	0
Wyoming	16	91,450	13	86,700	3	5,750	9	9	0
Total	563	2,930,640	362	2,549,490	201	397,450	164	148	16

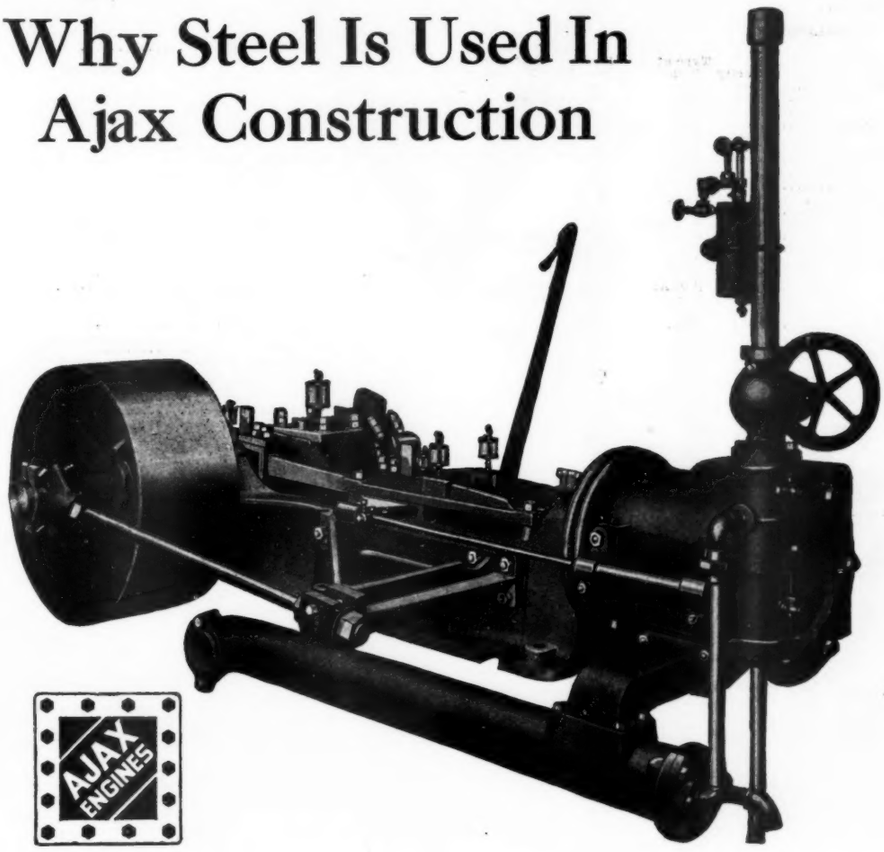
TABLE EXPLAINING ABBREVIATIONS USED IN TABLES

Complete Plant (Comp.)—Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils, Paraffin Wax, Petroleum Coke, Asphalt or both Coke and Asphalt.
Skimming Plant (Skm.)—Gasoline, Kerosene, Gas and Fuel Oils.
Skimming and Lube (S. & L.)—Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils.
Skimming and Asphalt (S. & A.)—Gasoline, Kerosene, Gas and Fuel Oils, Asphalt.
Skimming and Coke (S. & C.)—Gasoline, Kerosene, Gas and Fuel Oils, Coke.
Skimming, Lube and Asphalt (S. L. & A.)—Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils, Asphalt.
Skimming, Lube and Coke (S. L. & C.)—Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils, Coke.
Wax Plant (Wax)—Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils, Paraffin Wax.
Lube Plant (Lub.)—Gas and Fuel Oils, Lubricating Oils.
Asphalt Plant (Asph.)—Distillates, Gas and Fuel Oils, Asphalt.
Topping Plant (Top.)—Tops, Distillates, Gas and Fuel Oils.
Status of Plants—Op., operating; S. D., shut down; Bldg., building.

ARKANSAS

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Arkansas Oil & Ref. Co., Fort Smith	1,000	Skm.	S. D.	Experimental
Cross Ref. Co., Smackover	2,000	Skm.	Op.	
Farmers Oil & Ref. Co., Texarkana	750	Skm.	Op.	
Grison Ref. Co., El Dorado	750	Skm.	S. D.	
Home Oil & Ref. Co., Camden	750	Skm.	Op.	
Hot Springs Ref. Co., Hot Springs	500	Skm.	Op.	
Houston Oil Co., Camden	5 000	Skm.	Bldg.	Dubbs
Jones & Co., R. C., El Dorado	1,000	Skm.	S. D.	
Kettle Creek Ref. Co., El Dorado	4,000	Skm.	Op.	
Lion Oil & Ref. Co., El Dorado	12,000	Skm.	Op.	Burton
McMillian, Fehiman & Oliver, El Dorado	1,500	Skm.	S. D.	
New Ark Pet. Co., El Dorado	1,200	Skm.	Op.	
Ouachita Valley Ref. Co., El Dorado	1,500	Skm.	Op.	
Pine Bluff Ref. Co., Pine Bluff	2,000	Skm.	Op.	Blaisdell

Why Steel Is Used In Ajax Construction



As the oil industry increased in size it was only natural that the operators in the field demanded an engine which could stand the strain of rougher handling.

A reason for the continued leadership of Ajax Engines is the fact that it has always anticipated the demand for better engines. Its most recent improvements, the use of 16 to 20% steel in foundry mixtures, the new outboard bearing, larger main bearings, improved stuffing-box design and lubrication, all do their part in makingAjax Drilling Engines the strongest engines on the market.

Distributed by
National Supply Companies
in every oil field

Manufactured by
AJAX IRON WORKS
Corry, Pa.

AJAX DRILLING ENGINES

Insist on Genuine Ajax Replacement Parts

3469

Root Refineries, El Dorado	3,000	Skm.	Op.	
Shippers Pet. Co., El Dorado	700	Skm.	S. D.	
*Union Pipe Line & Ref. Co., El Dorado	1,000	Skm.	Op.	Dubbs
Total	38,650			

*Leased by Ouachita Valley Ref. Co.

CALIFORNIA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Amalgamated Oil Co., Los Angeles	10,000	Top.	Op.	
American Oilfields Co., Fellows	10,000	Top.	Op.	Gillons
American Pet. Co., Coalinga	5,000	Top.	Op.	
Angeles-Snowlene Ref. Co., Los Angeles	1,500	Top.	S. D.	
Associated Oil Co., Avon	50,000	S. & L.	Op.	Dubbs
Associated Oil Co., Los Angeles	6,000	Skm.	Op.	Dubbs
Blue Tank P. L. & Ref. Co., Wilmington	10,000	Comp.	S. D.	
Brown Process Co., Maricopa	6,000	Skm.	Op.	
Brown Process Co., Hynes	4,000	Skm.	S. D.	
California Ref. Co., Long Beach	600	Skm.	S. D.	
California Refineries Co., Santa Fe Springs	2,000	Skm.	Op.	
Continental Pet. Ref. Co., Vernon	6,500	S. A. & W.	Op.	
Comet Oil Co., Vernon	2,500	Skm.	Op.	Chem. Oil Ref.
Commercial Ref. Co., Hynes	2,000	Skm.	S. D.	Gillons
Crescent Ref. & Oil Co., Los Angeles	500	Skm.	S. D.	
Crystal Pet. Prod. Co., Hynes	1,500	Skm.	Op.	
Crump-Steele Co., Long Beach	1,000	S. & A.	Op.	Crump-Steel
Delaney P. & R. Co., Los Angeles	1,600	Skm.	Op.	Experimental
Delta O. & R. Co., Martinez	3,000	Lub.	Op.	
East-West Ref. Co., Los Angeles	1,000	Skm.	S. D.	
General Pet. Corp., Vernon	50,000	Top.	Op.	Experimental
General Pet. Corp., Lebec	10,000	Top.	Op.	
Gilmore Pet. Co., Vernon	4,000	Skm.	Op.	
Hancock Ref. Co., Long Beach	3,500	Skm.	Op.	
Harbor Ref. Co., Los Angeles	1,500	S. & A.	Op.	
Henderson O. & R. Co., Long Beach	1,000	Skm.	S. D.	
Holly Oil Co., Huntington Beach	750	Skm.	S. D.	
Hercules Oil Co., Los Angeles	3,000	Skm.	Op.	
Hursh Ref. Co., Long Beach	900	Top.	Op.	
Jameson Oil Co., Los Angeles	6,000	Skm.	Op.	
Jordon Oil Co., Vernon	600	Skm.	Op.	
King Ref. Co., Bakersfield	450	A. & L.	S. D.	
Los Angeles Ref. Co., Los Angeles	300	Skm.	S. D.	
Mexican Petroleum Corp. of La., Inc., Watson	40,000	Skm.	Op.	
Mercury Ref. Co., Long Beach	1,200	Top.	Op.	
Mohawk Pet. Co., Coalinga	3,000	Top.	S. D.	Dubbs
Mutual Ref. Co., Huntington Beach	2,000	Skm.	Op.	
O'Donnell Ref. Co., West Whittier	3,000	Skm.	Op.	
Oil Rectifying & Mkt. Co., Huntington Beach	3,000	Top.	Op.	
Pacific American Pet. Co., Los Angeles	300	Skm.	S. D.	
Pioneer Paper Co., Vernon	600	A.	Op.	
Petroleum Export Corp., Los Angeles	7,000	Skm.	Op.	
Petroleum Midway Co., Long Beach	1,000	Top.	Op.	
Producers Ref. Co., Kern River	150	Rerun	S. D.	
Paraffine Co., Emeryville	1,200	Asph.	Op.	
Pioneer Paper Co., Vernon	600	Asph.	Op.	
Richfield Oil Co., Bakersfield	3,500	S. & L.	Op.	
Richfield Oil Co., Los Angeles	1,000	Skm.	Op.	
Rio Grande Oil Co., Vinvale	5,000	Skm.	Op.	
Roseberg Oil Co., Los Angeles	3,000	Comp.	Op.	
Santa Fe Carbon Co., Long Beach	2,000	Skm.	Op.	
St. Helens Pet. Co., Fullerton	200	Top.	S. D.	
Seaside Oil Co., Summerland	3,000	Top.	Op.	
Seaside Oil Co., Ventura	5,000	Top.	Op.	
Shell Co., Coalinga	4,000	Comp.	Op.	Trumble
Shell Co., Martinez	35,000	Comp.	Op.	Dubbs-Trumble
Shell Co., Wilmington	23,000	Comp.	Op.	Trumble
Sierra Ref. Co., Vernon	7,000	Skm.	Op.	
Standard Oil Co. (Cal.), Bakersfield	30,000	S. & A.	Op.	
Standard Oil Co. (Cal.), El Segundo	80,000	Comp.	Op.	Own-Burton
Standard Oil Co. (Cal.), Richmond	90,000	Comp.	Op.	Own-Burton
Triangle Ref. Co., Long Beach	1,000	Top.	Op.	
Turner Oil Co., Los Angeles	1,000	Skm.	S. D.	
Union Oil Co., Avila	10,000	Comp.	Op.	
Union Oil Co., Rodeo	500	L.	Op.	
Union Oil Co., Maltha	2,000	S. & A.	Op.	
Union Oil Co., Brea	8,000	Comp.	Op.	
Union Oil Co., Oleum	25,000	S. L. & A.	Op.	
Union Oil Co., Wilmington	32,000	Comp.	Op.	Cross
Union Oil Co., Santa Paula	1,000	Skm.	Op.	
Universal Ref. Co., Los Angeles	1,000	Skm.	Op.	
Ventura Ref. Co., Fillmore	4,500	T. L. & W.	Op.	
Vernon Oil Ref. Co., Los Angeles	3,000	Skm.	Op.	
Western Ref. Co., Wilmington	5,000	T. & L.	S. D.	
Wilshire Oil Co., Vernon	10,000	Top.	Op.	
Wilshire Oil Co., Fellows	2,500	Top.	Op.	
Wilmington Pet. Corp., Wilmington	600	S. & L.	S. D.	
Wadolene Reg. Co., Long Beach	200	Skm.	S. D.	
White Star O. & R. Co., Wilmington	5,000	Skm.	S. D.	
Total	663,750			

COLORADO

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Apex Ref. Co., Loomis	200	Skm.	S. D.	
Raven Oil & Ref. Co., Rangely	200	Top.	Op.	
*United Oil Co., Florence	1,500	Ck.	Op.	Burton
Total	1,900			

*Cracking process operated by the Standard Oil Co. of Indiana.

GEORGIA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Atlantic Ref. Co., Brunswick	5,000	Comp.	Op.	Lewis

ILLINOIS

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Barber Asphalt Co., Madison	250	T. & A.	Op.	
Calument Ref. Co., Burnham	1,000	Lub.	Op.	
Indian Ref. Co., Lawrenceville	18,000	Comp.	Op.	Cross-Db.-Flm.
Indiahoma Ref. Co., E. St. Louis	6,000	Skm.	S. D.	
Inter Ocean Ref. Co., McCook	5,000	Comp.	S. D.	
Lincoln Oil Ref. Co., Robinson	1,000	Comp.	Op.	
Lemont Ref. Co., Lemont	1,000	Skm.	Op.	Emerson
Lubrite Ref. Co., E. St. Louis	3,000	Skm.	Op.	Fleming
Martin Oil & Ref. Co., Osborne	1,000	Skm.	Op.	
Premier Pet. & Pipe Line Co., Blue Island	2,500	Comp.	S. D.	
Roxana Pet. Corp., Wood River	30,000	Skm.	Op.	Dubbs-Cross
Standard Oil Co. of Indiana, Wood River	20,000	Skm.	Op.	Burton
Texas Co., The, Lockport	4,500	Comp.	Op.	Holmes-Manley
Warren Oil Co., Joliet	1,500	Comp.	S. D.	
White Star Ref. Co., Wood River	2,500	Skm.	Op.	Cross
Total	97,250			

INDIANA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Indiana Oil Co., Columbus	750	S. & L.	S. D.	
Interstate Gasoline Co., East Chicago	2,500	Skm.	Op.	Greenstreet
Portland Oil & Ref. Co., Portland	1,000	Skm.	S. D.	Fleming
Portland Oil & Ref. Co., Fairmount	1,200	S. & L.	S. D.	
Service Oil Ref. Co. (Ind.), Whiting	25,000	Comp.	Op.	Burton
Sinclair Ref. Co., East Chicago	18,000	S. & C.	Op	Isom
Vincennes Ref. Co., Vincennes	1,200	S. & L.	Op.	
Total	89,650			

IOWA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Omaha Ref. Co., East Omaha	1,800	Skm.	Op.	Cross

KANSAS

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Bell Prod. & Ref. Co., Eldorado	700	Skm.	S. D.	
Chemical Oil & Gas Co., Osawatomie	1,000	Skm.	S. D.	
Commonwealth Oil & Ref. Co., Moran	1,800	Skm.	S. D.	
Derby Oil & Ref. Corp., Wichita	6,000	Skm.	Op.	Dubbs
Eldorado Ref. Co., Eldorado	3,500	Skm.	S. D.	
Frontier Ref. Co., Hutchinson	2,500	Skm.	S. D.	
Golden Rule Ref. Co., Wichita	1,000	Skm.	Op.	
Gordon Ref. Co., Florence	2,000	Skm.	Op.	
Grant Oil Co., Augusta	500	Skm.	Op.	Jenkins
Industrial Ref. Co., Eldorado	1,500	Skm.	S. D.	
Kanotex Ref. Co., Arkansas City	4,500	Skm.	Op.	
Kansas-Texas Pet. Co., Wichita	1,500	Skm.	S. D.	
Kansas City Ref. Co., Kansas City	4,000	Skm.	Op.	Wellman
Kansas Oil Ref. Co., Coffeyville	1,500	S. & L.	S. D.	
McCree Pet. Corp., Baxter Springs	1,000	Lub.	S. D.	
McWhorter-Chanute Ref. Co., Chanute	500	Skm.	S. D.	
Mecca Ref. Co., Augusta	2,500	Skm.	S. D.	
Miller Pet. Co., Humboldt	2,000	Skm.	Op.	Cross
Mo-Kan Ref. Co., Kansas City	700	Skm.	S. D.	
Moore Ref. Co., Arkansas City	6,000	Skm.	Op.	Dubbs
Mutual Oil Co., Chanute	1,000	S. & L.	S. D.	Blaisdell
National Ref. Co. of Coffeyville	10,000	Comp.	Op.	National
Noco Prod. Co., Arkansas City	2,500	Skm.	S. D.	Experimental
Peerless Oil Ref. Co., Chanute	3,500	Skm.	Op.	
Red Bird Ref. Co., Fredonia	200	Skm.	Op.	
Richardson Ref. Co., Eldorado	1,500	Skm.	Op.	
Roxana Pet. Corp., Arkansas City	15,000	Skm.	Op.	Dubbs
Sinclair Ref. Co., Coffeyville	500	Comp.	Op.	Isom
Sinclair Ref. Co., Argentine	8,000	Skm. & Coke	Op.	Isom
Skelly Oil Co., Eldorado	12,000	Skm.	Op.	Cross-Jenkins
Standard Oil Co. of Kansas, Neodesha	12,000	Skm.	Op.	Burton
Sterling Oil & Ref. Co., Wichita	5,000	Skm.	Op.	Fleming-Dubbs
Tri-State Oil & Ref. Corp., Eldorado	1,200	Skm.	S. D.	
Vickers Pet. Co., Potwin	1,500	Skm.	Op.	Dubbs
White Eagle Oil & Ref. Co., Augusta	6,000	Skm.	Op.	Burton
Total	132,600			

KENTUCKY

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Ashland Ref. Co., Leach	2,000	Skm.	Op.	
Aetna Oil Service, Louisville	3,000	Skm.	Op.	Fleming
Central Prod. & Ref. Co., Bowling Green	600	Skm.	Op.	Central
Great Eastern Ref. Co., Cattlesburg	1,000	Skm.	S. D.	
Great Southern Ref. Co., Lexington	2,500	S. & L.	Op.	
Great Southern Ref. Co., Pryse	3,000	Skm.	Op.	
Inter-Cities Oil Co., Scottsville	100	Skm.	Op.	
Louisville Pet. Ref. Co., Louisville	3,000	Skm.	Bldg.	Dubbs
Massey Ref. Co., Scottsville	100	Skm.	Op.	
Neha Ref. Co., Lexington	1,200	Skm.	Op.	
Petroleum Ref. Co., Latonia	1,800	Skm.	Op.	Cross
Riggs Ref. & Pipe Line Co., Bowling Green	250	Skm.	Op.	
Stoll Ref. Co., Louisville	1,000	S. & L.	Op.	
Standard Oil Co. (Ky.), Louisville	5,000	Skm.	Op.	Burton
Total	24,550			

LOUISIANA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Alexandria Ref. Co., Alexandria	700	Skm.	Op.	
Associated Ref. Co., Oil City	2,000	S. & L.	Op.	Col. De Camp
Caddo Central Oil & Ref. Co., Shreveport	6,000	Skm.	Op.	
Caddo Central Oil & Ref. Co., Shreveport	3,500	Skm.	Op.	
Calcausieu Oil Ref. Co., Westlake	1,000	Top.	S. D.	
Chalmette Pet. Corp., Chalmette	700	Skm.	S. D.	
Dartois Oil Ref. Co., Shreveport	80	Lub.	Op.	
General Oil & Ref. Co., Homer	1,000	Skm.	S. D.	
Great Southern Pro. & Ref. Co., Ardis	1,500	Skm.	Op.	Foreward
Gulf Coast Ref. Co., Gulf Hope	10,000	Asph.	S. D.	
Home Ref. Co., Haynesville	150	Skm.	Op.	
International Oil & Gas Corp., Shreveport	1,000	Lub.	S. D.	
Invincible Oil Co., New Orleans	1,600	Skm.	Op.	Carleton-Ellis
Island Ref. Corp., Sellers	10,000	Asph.	S. D.	
Liberty Oil Co., New Orleans	1,600	Skm.	Op.	
Lewis Oil Corp., Shreveport	1,000	Skm.	S. D.	
Louisiana Oil Ref. Corp., Bossier	3,000	S. & L.	Op.	Tube & Tank
Louisiana Oil Ref. Corp., Shreveport	8,500	Skm.	Op.	
Mexican Pet. Corp., Destrehan	35,000	S. & A.	Op.	Experimental
New Orleans Ref. Co., Good Hope	15,000	S. & A.	Op.	Trumble-Dubbs
Paramount Ref. Co., Vivian	3,000	Skm.	S. D.	
Red River Ref. Co., Crichton	1,800	Skm.	S. D.	
Shreveport Prod. & Ref. Corp., Shreveport	5,000	Skm.	Op.	Dubbs
Sinclair Ref. Co. of Louisiana, Meraux	6,000	Asph.	Op.	
Standard Oil Co. of Louisiana, Baton Rouge	80,000	Comp.	Op.	Burton
Sunset Ref. Co., Plaquemine	600	Skm.	S. D.	
Texas Co., The, Ardis	5,000	Top.	Op.	
Union Ref. & Pipe Line Co., Homer	1,000	Skm.	S. D.	
Union Ref. & Pipe Line Co., Oil City	1,000	S. & L.	S. D.	
Total	206,730			

MASSACHUSETTS

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Beacon Oil Co., Everett	20,000	S. & A.	Op.	Beacon
New England Oil Ref. Co., Fall River	30,000	Comp.	Op.	Special
Cities Service Ref. Co., East Braintree	12,000	Comp.	Op.	Holmes-Manley
Total	62,000			

MARYLAND

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Inter Ocean Oil Co., Baltimore	6,000	Comp.	Op.	Dubbs
Prudential Oil Corp., Baltimore	7,000	Comp.	Op.	Prudential
Standard Oil Co. (N. J.), Baltimore	32,000	Comp.	Op.	Burton
U. S. Asphalt Ref. Co., Baltimore	4,000	Asph.	Op.	
Total	49,000			

MISSISSIPPI

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Gulf Coast Oil Ref. Co., Gulfport	250	Skm.	Op.	
Rainbow Oil Co., Greenville	5,000	Skm.	S. D.	
Total	5,250			

MINNESOTA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Pure Oil Co., Minneapolis	1,000	L. & W.	Op.	

VOORHEES RUBBER MFG. CO.
TRADE MARK

Sensation Belting

Does Not Lose Clamps

Saves time in repairing.
Manufactured at Jersey City, New Jersey.
Carried in stock at the following points:

Rising Star, Texas	Depew, Okla.	Augusta, Kans.
Ft. Worth, Texas	Sayre, Okla.	El Dorado, Kans.
Ranger, Texas	Wewoka, Okla.	Madison, Kans.
Breckenridge, Texas	Tulsa, Okla.	Marietta, Ohio
South Bend, Texas	Wetumka, Okla.	Shidler, Okla.
Tonkawa, Okla.	Florence, Kans.	Stroud, Okla.

THE BRIDGEPORT MACHINE COMPANY
General Offices & Works WICHITA, KANSAS

MISSOURI

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Interstate Refineries, Inc., Centropolis	1,500	Ck.	S. D.	Muehl
Marshall & Co., Sheffield	2,500	Skm.	S. D.	
St. Joseph Viscosity Oil Co., St. Joseph	500	Skm.	S. D.	
Standard Oil Co. (Ind.), Sugar Creek	20,000	Skm.	Op.	Burton
Wilhoit Ref. Co., Joplin	1,800	Skm.	Op.	
Total	26,300			

MONTANA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
American Ref. Co., Great Falls	750	Skm.	S. D.	
Arro Oil & Ref. Co., West Lewistown	1,500	Skm.	Op.	
Lewistown Oil & Ref. Co., Lewistown	750	Skm.	S. D.	
Miles City Ref. Co., Miles City	800	Skm.	Op.	
Montana Ref. Co., Billings	800	Skm.	S. D.	
Sunburst Ref. Co., Great Falls	3,000	Skm.	Op.	
Weowna Ref. Co., Winnett	1,000	Skm.	S. D.	

NEW JERSEY

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Barber Asphalt Co., Maurer	3,000	S. & L.	Op.	
Columbia Oil Co., Constable Hook	1,000	S. & A.	S. D.	
Galena-Signal Oil Co., Elizabeth	1,500	Comp.	Op.	
Raritan Ref. Corp., New Brunswick	5,000	Skm.	S. D.	
Tidewater Oil Co., Bayonne	37,000	Comp.	Op.	Burton-Flem'g
Standard Oil Co. (N. J.), Jersey City	17,000	S. & L.	Op.	
Standard Oil Co. (N. J.), Linden	75,000	Comp.	Op.	Burton
Standard Oil Co. (N. J.), Bayonne	88,000	Comp.	Op.	
Valvoline Oil Co., Edgewater	1,000	Comp.	Op.	
Vacuum Oil Co., Paulsboro	11,000	Comp.	Op.	Elless
Warner-Quinlan Co., Warners	10,000	Comp.	Op.	Dubbs
Total	249,500			

NEW YORK

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
American Purchase Sales Corp., Buffalo	200	Skm.	S. D.	
Bolivar Ref. Corp. Bolivar	100	Skm.	Op.	
Sinclair Ref. Co., Wellsville	1,000	S. L. & W.	Op.	
Standard Oil Co. (N. Y.), Brooklyn	20,000	Comp.	Op.	Burton
Total	21,300			

OHIO

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Akron Oil Ref. Co., Akron	400	Skm.	S. D.	
Canfield Oil Co., Cleveland	1,200	S. & W.	Op.	
Craig Oil Co., Toledo	1,500	S. L. & W.	Op.	
National Ref. Co., Marietta	1,000	S. & L.	Op.	National
National Ref. Co., Findlay	1,500	S. & L.	Op.	National
Ohio Ref. Co., Cincinnati	1,500	Skm.	Op.	Ohio
Paragon Ref. Co., Toledo	8,000	S. L. & W.	Op.	
Pure Oil Co., Heath	4,000	Skm.	Op.	Cross
Solar Ref Co., Lima	8,000	Comp.	Op.	
Stellar Ref. Co., Newark	1,000	Skm.	Op.	Leamson
Sun Oil Co., Toledo	3,500	S. & L.	Op.	
Standard Oil Co. (Ohio), Toledo	12,000	Comp.	Op.	Burton
Standard Oil Co. (Ohio), Cleveland	10,000	Comp.	Op.	Burton
Total	53,800			

OKLAHOMA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Acme Ref. & Pipe Line Co., Jennings	1,000	Skm.	S. D.	
Allied Ref. Co., Okmulgee	1,800	Skm.	Op.	
Anderson-Prichard Oil Corp., Cyril	1,500	Skm.	Op.	
Associated Prod. & Ref. Co., Yale	1,000	Skm.	S. D.	
Barnsdall Ref. Co., Barnsdall	3,500	S. L. & W.	Op.	Fleming
Beaver Prod. & Ref. Co., Dilworth	700	Skm.	S. D.	
Big Six Ref. Co., Sapulpa	2,000	Skm.	S. D.	Landis
Bison Ref. Co., Quay	1,000	Skm.	S. D.	
Bolene Ref. Co., Enid	3,600	Skm.	Op.	
Buffalo Ref. Co., Yale	1,000	Skm.	S. D.	
Burk-Cushing Ref. Co., Cushing	1,000	Skm.	S. D.	
Cameron Ref. Co., Ardmore	3,000	Skm.	Op.	
Canfield Ref. Co., Yale	500	Skm.	Op.	
Carter Oil Co., Cartoco	12,000	Skm.	S. D.	
Champlin Ref. Co., Enid	16,000	S. L. & W.	Op.	
Chestnut & Smith Corp., Sand Springs	5,000	Skm.	Op.	
Coleman-Nelson Corp., West Tulsa	2,000	Skm.	Op.	Experimental
Coleman-Nelson Corp., Haskell	1,000	Skm.	S. D.	
Constantin Ref. Co., West Tulsa	4,000	Skm.	S. D.	
Constantin Ref. Co., Devol	10,000	Skm.	S. D.	
Cosden & Co., West Tulsa	35,000	Comp.	Op.	Cosden-Coast
Cushing Ref. & Gasoline Co., Cushing	2,000	Skm	Op.	
Cushing Ref. & Gasoline Co., Blackwell	1,000	Skm.	Op.	
Daisy Bell Pet. Co., Wilson	2,000	Skm.	Op.	
Damascus Ref. Co., Lawton	1,500	Skm.	S. D.	
El Dorado Ref. Co., Yale	700	Skm.	S. D.	
Empire Refineries, Inc., Cushing	7,000	Skm.	Op.	Doherty
Empire Refineries, Inc., Ponca City	6,000	Comp.	Op.	Doherty
Empire Refineries, Inc., Okmulgee	2,500	Comp.	Op.	Coast-Doherty
Empire Refineries, Inc., Oklahoma City	2,000	Skm.	S. D.	
Fairmont Ref. Co., Fairmont	2,500	Skm.	S. D.	
Federal Oil & Ref. Co., Cushing	1,500	Skm.	S. D.	
Francisco Oil & Ref. Co., Francis	500	Skm.	S. D.	
Frederick Oil & Ref. Co., Frederick	1,000	Skm.	S. D.	
Garber Ref., Inc. (Omar), Garber	3,000	Skm.	Op.	
Gilmer Oil Co., Ringling	1,000	Skm.	Op.	
Glen Braden Ref. Co., Perry	1,000	Skm.	S. D.	Burk-Hintz
Globe Oil & Ref. Co., Blackwell	5,000	Skm.	Op.	Cross
Hewitt Ref. Co., Hewitt	1,800	Skm.	Op.	
Indian Chief Oil & Ref. Co., Cushing	1,800	Skm.	S. D.	
Illinois Oil Co., Cushing	2,500	Skm.	Op.	
Imperial Ref. Co., Ardmore	6,000	Skm.	Op.	Dubbs
Indiahoma Ref. Co., Okmulgee	9,000	Skm.	S. D.	
Inland Ref. Co., Cushing	3,000	Skm.	S. D.	Hanson
Johnson Oil Ref. Co., Cleveland	4,000	Skm.	Op.	Dubbs
Lawton Ref. Co., Lawton	1,000	Skm.	S. D.	
Livingston Ref. Co., Walters	3,000	Skm.	S. D.	
Lorraine Ref. Co., Bristow	4,000	Skm.	Op.	
Marland Ref. Co., Ponca City	15,000	Comp.	Op.	Fleming
Mason, D. B., Osage City	200	Exper.	Op.	Experimental
Maud Oil & Ref. Co., Maud	400	Skm.	S. D.	
Mecca Ref. Co., Allen	2,000	Skm.	S. D.	
Meridian Pet. Corp., Okmulgee	3,000	S. & L.	S. D.	
Meridian Pet. Corp., Hominy	1,000	Skm.	S. D.	
Midco Pet. Co., West Tulsa	7,000	Skm.	S. D.	
North American Ref. Co., Pemeta	2,500	Skm.	S. D.	
Nyansa Ref. Co., Wilson	3,500	Skm.	Op.	
Noble, Chas. F., Oil & Gas Co., Oklahoma City	2,200	Skm.	S. D.	
Oil State Ref. Co., Enid	2,000	Skm.	S. D.	
Oil State Ref. Co., Allen	600	Skm.	S. D.	
Oklahoma-Texas R. Co. (Sagamore), Grandfield	2,000	Skm.	Op.	
Oklahoma Star Ref. Co., Frederick	500	Skm.	S. D.	
Oklahoma Prod. & Ref. Corp., Muskogee	2,500	S. L. & W.	Op.	
Phillips, Waite, Co., Okmulgee	6,000	Skm.	Op.	Cross
Peppers Gasoline Co., Covington	1,000	Skm.	Op.	
Pierce Oil Corp., Sand Springs	10,000	S. L. & W.	Op.	
Pauline Ref. Co., Hampton	1,200	Skm.	Op.	
Pawhuska Ref. Co., Pawhuska	1,000	Skm.	S. D.	
Pioneer Pet. Corp., Guthrie	1,000	Skm.	S. D.	
Powerine Oil Co., Billings	500	Skm.	S. D.	
Prod. & Ref. Corp., West Tulsa	7,000	Skm.	Op.	Coast-Dubbs
Prod. & Ref. Corp., Blackwell	3,000	Skm.	Op.	
Prod. & Ref. Corp. (Polar)	2,000	Skm.	S. D.	
Pure Oil Co., Ardmore	6,500	Skm.	Op.	Dubbs
Pure Oil Co., Cushing	5,000	Skm.	Op.	
Riley Pet. Co., Bristow	800	Skm.	Op.	Experimental
Rock Island Ref. & Supply Co., Beckett	2,000	Skm.	Op.	
Roland Oil Co., Bristow	1,500	Skm.	Op.	
Superior Oil Corp., Grandfield	3,000	Skm.	S. D.	
Santa Fe Oil & Ref. Co., Ardmore	5,000	Skm.	S. D.	Dubbs
Sapulpa Ref. Co., Sapulpa (Mutual)	7,000	S. L. & W.	Op.	Cross
Sayre Oil & Ref. Co., Sayre	500	Skm.	S. D.	
Shaffer Oil & Ref. Co., Cushing	6,000	Comp.	Op.	Dubbs
Sheridan Ref. Co., Newkirk	2,000	Skm.	S. D.	
Sinclair Ref. Co., Cushing	6,000	Skm.	S. D.	
Sinclair Ref. Co., Muskogee	1,000	S. & L.	Op.	
Southwestern Oil Corp., Enid	1,500	Skm.	S. D.	
Southern Oil Corp., Yale	6,000	Skm.	S. D.	
Southern Oil Corp., Walters	2,500	Skm.	S. D.	
Sun Co., Yale	3,000	Skm.	Op.	
Texas Co., The, Tulsa	8,000	Skm.	Op.	Holmes-Manley
Texas Pacific Coal & Oil Co., Wynnewood	2,500	Skm.	Op.	Dubbs
Tidal Ref. Co., Drumright	5,000	Skm.	Op.	Burton
Tonkawa Pet. Corp., Tonkawa	1,000	Skm.	S. D.	
Transcontinental Oil Co., Boynton	2,500	Comp.	Op.	Slagter
Transcontinental Oil Co., Bristow	5,000	Skm.	Op.	
Turley Ref. Co., Oklahoma City	2,500	Skm.	S. D.	
Union Oil & Ref. Co., Grandfield	2,000	Skm.	S. D.	
Wagoner Ref. Co., Wagoner	300	Skm.	S. D.	
Westheimer & Daube (Bay State), Healdton	1,000	Skm.	S. D.	
Western Oil Corp., Beckett	1,500	Skm.	Op.	
Whaleback Prod. Co., Oklahoma City	1,500	Skm.	Op.	
Yale Oil Corp., Yale	1,500	Skm.	Op.	
Total	353,600			

PENNSYLVANIA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Amber Oil & Realty Co., Stoneham	100	Petrolatum	Op.	
American Oil Works, Titusville	800	S. & L.	Op.	Fleming
Atlantic Ref. Co., Pittsburgh	4,500	Comp.	Op.	Lewis
Atlantic Ref. Co., Franklin	8,000	Comp.	Op.	Lewis
Atlantic Ref. Co., Philadelphia	50,000	Comp.	Op.	Lewis
Beaver Ref. Co., Oak Grove	200	S. & L.	Op.	
Bradford Ref. Co., Bradford	1,000	Comp.	Op.	
Butler County Oil Ref. Co. Brun	1,000	Comp.	Op.	Special
Canfield Oil Co. Coraopolis	600	S. & L.	Op.	
Carnegie Ref. Co., Carnegie	2,000	S. & L.	Op.	
Chippewa Oil Co., Bridgewater	200	S. & L.	S. D.	
Conewango Ref. Co., Warren	2,000	S. & L.	Op.	Snodgrass
Continental Ref. Co., Oil City	1,000	Comp.	Op.	
Crew-Levick Co., Titusville	2,000	Comp.	Op.	
Crew-Levick Co., Warren	1,400	Comp.	Op.	
Cryrtal Oil Works, Rouseville	800	Comp.	Op.	
Daugherty, W. H., & Son, Petrolia	300	Petrolatum	Op.	
Eastern Oil Ref. Co., Russell	1,000	Comp.	S. D.	
Emery Manufacturing Co., Bradford	1,500	Comp.	Op.	
Emlenton Ref. Co., Emlenton	600	Wax	Op.	
Empire Oil Works, Reno	600	L. & W.	Op.	
Franklin Oil Works, Raymilton	500	Comp.	Op.	
Franklin Quality Ref. Co.	500	Comp.	S. D.	Richey
Freedom Oil Works Co., Freedom	1,500	Comp.	Op.	
Galena-Signal Oil Co., Franklin	2,000	Comp.	Op.	
Glenshaw Development Co., Coraopolis	500	Skm.	S. D.	
Independent Ref. Co., Oil City	1,300	Comp.	Op.	Snodgrass
Interior Oil & Gas Corp., Clarendon	500	Skm.	S. D.	
Island Pet. Co., Neville Island	1,000	Comp.	Op.	Snodgrass
Kendall Ref. Co. Bradford	1,000	Comp.	Op.	Dubbs
Lucinda Ref. Co., Lucinda	500	Skm.	Op.	
Lakeside Oil Ref. Co., Franklin	400	S. & L.	Op.	Jenkins
McKean County Ref. Co., Bradford	1,000	Comp.	Op.	
Miller Sons Co., A. D., Pittsburgh	1,000	S. & L.	Op.	Miller
Mutual Ref. Co., Warren	500	Comp.	Op.	Snodgrass
Oil Creek Ref. Co., Titusville	1,000	Comp.	Op.	
Penn-American Ref. Co., Rouseville	4,000	Comp.	Op.	Fleming
Penn. Oil Products Ref. Co., Eldred	1,000	Comp.	Op.	
Pen. Oil & Ref. Co., Karns City	400	Petrolatum	Op.	
Pittsburgh Oil & Ref. Co., Coraopolis	1,500	Skm.	Op.	
Pure Oil Co., Marcus Hook	5,000	Wax	Op.	
Pure Oil Co., Warren	2,000	Wax	Op.	
Seneca Oil Works, Warren	560	Comp.	Op.	Snodgrass
Sinclair Ref. Co., Marcus Hook	10,000	Skm.	Bldg.	Isom
Smith, Levi, Ref. Co., Clarendon	1,000	Lub.	S. D.	
Starright Ref. Co., Karns City	100	Petrolatum	Op.	
Stellar Ref. Co., Washington	1,000	Skm.	Op.	
Sun Oil Co., Philadelphia	20,000	Comp.	Op.	Cross
Superior Oil Works, Warren	400	L. & W.	Op.	
Texas Co., Marcus Hook	5,000	Asph.	Op.	
Tidioute Ref. Co., Tidioute	300	Skm.	Op.	
Tiona Ref. Co., Philadelphia	1,000	Comp.	Op.	
Titusville Oil Works, Titusville	1,000	S. & L.	Op.	Fleming
United Ref. Co., Warren	1,000	Comp.	Op.	
Valvoline Oil Works, Ltd., East Butler	1,000	Comp.	S. D.	
Vulcan Oil Ref. Co., Coraopolis	1,000	Lub.	S. D.	Dubbs
Warren Ref. Co., Warren	500	Comp.	S. D.	
Warr-Penn Ref. Co., Warren	400	Lub.	Op.	
Waverly Oil Works Co., Pittsburgh	650	Comp.	Op.	Cross
White Oil Corp., Clarendon	1,000	Lub.	S. D.	
Wilburine Oil Works, Ltd.	600	Comp.	S. D.	
Total	153,710			

RHODE ISLAND

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Texas Co., The, Providence	5,000	Asph.	Op.	
Standard Oil Co. (N. Y.), Providence	10,000	S. & A.	S. D.	
Total	15,000			

SOUTH CAROLINA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Standard Oil Co. (N. J.), Charleston	10,000	S. & A.	Op.	Burton

TENNESSEE

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Producers Pipe Line & Ref. Co., Nashville	500	Skm.	Op.	
Royal Ref. Co., Memphis	1,200	Skm.	S. D.	
Total	1,700			

TEXAS

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Able Ref. Co., Houston	100	Lub.	S. D.	
American Ref. Co., Wichita Falls	7,000	Skm.	Op.	Cross-Dubbs
American Oil Co., Pioneer	2,000	Skm.	Op.	Ryan
Anderson-Prichard Corp., Colorado	1,000	Skm.	Bldg.	
Associated Prod. & Ref. Co., Bridgeport	1,000	Skm.	S. D.	
Austin Pet. Co., Rockdale	1,000	S. & L.	S. D.	
Atlas Ref. Co., Fort Worth	2,000	Skm.	S. D.	

(Continued on Page 86)

ACTUAL FIELD EXPERIENCE

It takes more than mechanical knowledge and metal to manufacture a dependable oil field supply or piece of machinery.

It takes actual experience—an intimate first hand knowledge of the problems and difficulties the men in the field must face day after day.

Gumbo Buster Products are the result of a quarter of a century's actual experience in the manufacture of strong dependable equipment, machinery and supplies for the oil producer.

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From Natural Gas to Manufactured Gas

Experience of One Company With Declining Supply Related in Detail to Convention of Natural Gas Association of America

By Frank L. Pringle
The Lima Natural Gas Co., Lima, Ohio

In order that communities now enjoying the privileges and conveniences of natural gas may in the future have an adequate gas service, either of two steps may be taken. First, the total abandonment of natural gas and the expenditure of vast sums for the erection of modern manufactured gas plants, or the utilization of the available natural gas supply to be used as an enriching agent in furnishing a mixed gas.

The most logical step seems to make use of the existing natural gas supply in furnishing the mixed product, as the building of a straight manufactured gas plant not only consumes a large amount of money, but a vast amount of time.

I would like to have you gentlemen visualize this picture of an actual condition:

"New Castle, Ind.—Eliza Springer of Springport, has filed a suit in Circuit Court, asking that a receiver be appointed for the Springport and Mt. Summit Gas Co. The petitioner is a stockholder in the company.

"In the complaint it is alleged that the company owns and operates a number of gas wells, but that not sufficient gas is produced to supply all consumers, and that the casing, pipe and pipe lines are rusting, and the company has not sufficient money to replace these, as a number of stockholders refuse to pay assessments. The company owes debits, which it cannot pay and for this and other reasons a receiver is asked for."

There is a pathetic story of a struggling little gas company in Indiana, that has stumbled into the pit. May I not sound a warning, even to the larger companies, that the fate of that company be looked on as an example of what the end may be for others. In nearly every case where this dreaded thing has taken root, there is still an opportunity to administer treatment. This germ of inadequacy certainly may be checked.

Not a Great Problem

Some years ago the idea of furnishing a mixed gas was but theory, today it is a practice. It is not a great problem; some become frightened at the thought. It is merely a matter of determination, added to a little engineering.

In a number of communities a mixture of natural and artificial gas has been supplied with success. Los Angeles is the largest city so supplied. It is being accomplished in Muncie, Ind., today, notwithstanding that in 1913 a natural gas line was extended into Indiana from West Virginia, to supply some 15 cities in the eastern part of the State. Then during the winter of 1916-17 the supply of natural gas became unsatisfactory. Arrangement was then made to put a coal oven and two water gas plants into operation, to supply a mixed gas to some six of those cities. This operation started January 1, 1918 and lasted but one year, when the undertaking was abandoned.

This abandonment was caused by an insufficient rate for supplying mixed gas. The rate did not pay operating costs and depreciation charges, much less give a return on the investment. There was also considerable complaint on service, brought about on account of the different proportions of the two gases varying to such an extent that the heating value was not uniform and gave the consumer unsatisfactory results.

Even with this experience the company in Muncie advertised some time ago that a mixed gas would again be supplied. This second undertaking has met with success. This success can no doubt be attributed to having an adequate rate and the proper and necessary equipment for putting the two gases into the storage holder, which allows a uniform gas to go into the distribution system.

The Lima Natural Gas Co., located in Lima, Ohio, like all other natural gas companies, has experienced natural gas shortages. In view of the fact that this company had a long fight which lasted three years, before the city council, courts and State commission and was finally granted a rate of $1 and up per thousand the company felt it should give exceptionally good service.

Supply Insufficient

The supply of natural gas was not sufficient to meet the demands. To meet this situation the company elected to supplement the available natural gas supply with manufactured product. This operation has continued over 14 months, has been successful and is accomplished in this manner:

There is now installed in Lima a modern completed carburetted water gas plant consisting of two eight-foot-six gas machines of the double super-heater type and with all the necessary plant equipment, to produce 2,000,000 feet of blue gas per set per day. This plant is complete in detail, not only for the production of blue gas, but carburetted water gas as well. Because of their importance we mention a 100,000 foot relief holder and a 1,000,000-foot storage holder as a part of the equipment.

All the gas produced at this plant, whether carburetted or uncarburetted, is properly handled, purified and metered into the main storage holder. All of the available natural gas for enriching purposes is delivered from the transmission line to the manufacturing plant. At this point the pressures are controlled by regulators. The gas is sent through an independent station meter. The blue gas is metered in a like manner. The outlet liens of the two meters are connected to the inlet line going to the storage holder. The metering of the two gases brings about control of the proportions mixed.

Using blue gas with a value of 300 B. t. u. and natural gas at 1,000 B. t. u., as a standard, we find, from actual operations, that the desired heating value of gas to be sent out to the consumers may be obtained by using the proportions of the two gases as shown by the table below:

Effect of Mixed Gas on Heat Units

Blue Gas	Natural Gas	Per cent of Moisture	B. T. U. Obtained
0	100	...	1,000
5	95	100	965
10	90	100	930
15	85	100	895
20	80	100	860
25	75	100	825
30	70	100	790
35	65	100	755
40	60	100	720
45	55	100	685
50	40	100	545
55	45	100	615
60	50	100	580
65	35	100	545
70	30	100	510
75	25	100	475
80	20	100	440
85	15	100	405
90	10	100	370
95	5	100	335
100	0	...	300

Note that with each 5 per cent decrease in the natural gas proportion the B. t. u. is lowered 35. These results are verified by a Thomas Recording Calorimeter, which we have installed on the outlet line from the storage holder, this instrument always showing the heating value of the gas going into the distribution system.

The question of satisfaction on the part of the consumer in connection with the use of mixed gas comes up. This should be given careful consideration, as all appliances in use constructed for natural gas must receive attention.

Assume that a company has been furnishing natural gas of 1,000 B. t. u. and the supply becomes inadequate by 30 per cent and it is necessary to supplement the natural with blue gas. The consumers' appliances can burn this mixture of 30 per cent manufactured and 70 per cent natural gas without any adjustment of the orifice or mixer. This 70-30 mixture would have a B. t. u. value of 790. However, in supplying a mixed gas of a lower B. t. u. content the appliances would necessarily have to be adjusted.

Should the natural supply fall below 70 per cent, and it becomes necessary, in order to give service, to increase the proportions to be mixed, the company should then determine what heat value it desires to supply. Adjustment of appliances can then be made, not only to burn the predetermined mixture, but allowances can be made for burning an even lower B. t. u. gas than is sent out normally.

Manufacturing Plant

The manufacturing plant referred to is the culmination resulting from authority granted 53 years ago by the village of Lima, Ohio, granting rights of incorporation, construction and operation of a gas plant and fixing a rate of $4 per thousand feet for the manufactured product. The plant was modernized or rebuilt in 1910 and during the latter part of 1923 additional equipment was added in order that it might be utilized in supplementing the natural gas supply.

The Lima Natural Gas Co. was organized in 1886 and was vested with authority to conduct operations in the City of Lima. The company had secured leases on natural gas territory about 25 miles below Lima, in what was known then as the St. Marys Field; in addition, it was the fortunate one of 92 bidders, on securing a 15-year lease, at an annual rental of $705, on "The Little Dry Feeder," a strip about 3½ miles long and 40 feet wide, in Auglaize County, along the Miami and Erie canal; this strip lay within the gas belt.

The first natural gas consumed in Lima came from this St. Marys field in October, 1887. The first price ordinance passed covered what was known as a mixer rate; for cooking purposes, all the gas that could be passed through a No. 3 mixer was to be paid for at $2 per month, rate for a No. 5 mixer at $2.50 per month and a No. 7 mixer at $3 per month. The ordinance also provided for heating purposes at a stipulated monthly charge.

The next ordinance passed in 1892 for three years relieved the city of the problem of fixing a rate and gave the company authority to "sell its gas for such compensation as may be agreed upon between the seller and buyer."

Mixing Rate Evil

The establishing of the mixer rate was one of the most damnable pieces of legislation ever enacted, for it created and encouraged a criminal waste. It is said that in those days after an appliance had once been lighted it was never turned out, because gas was cheaper than matches. When the temperature became undesirable, windows and doors were thrown open.

This unnecessary waste cut down the life of the St. Marys field to eight years.

On the failure of this field the company secured a vast acreage in what was known as the Red Key field (Indiana), and in this area drilled and had in operation 250 wells; the first gas from this field was transmitted to Lima in 1895.

Conditions in this very promising field soon became unsatisfactory. Pressures and volume rapidly diminished. Then in 1902 the company took its first real step forward, in circularizing its customers, asking for more economical appliances and abandonment of wasteful methods. All consumers were notified that all contracts, written or verbal, would terminate on October 1, 1902 and standard meters would be installed. Customers were given the option of buying meters outright and paying a rate of 20 cents per thousand feet for gas, or renting a meter at $3 per annum and paying the full ordinance rate of 25 cents per thousand.

Even these measures failed to prolong the life of the Red Key field and in 1905 the company served notice that the supply had become inadequate and good service could no longer be maintained.

On the failure of this field the company entered into a contract for a supply of gas from the Licking County field, east of Columbus, Ohio. The new field was about 6 square miles in area and was producing 33,000,000 feet of gas per day, sending out at 750 pounds pressure at the wells. Contracting for a gas supply in that locality necessitated the construction of about 125 miles of transmission line.

On securing this new supply the city council granted a new rate of 30 cents per thousand feet for the first two years of a five-year ordinance and 33 cents per thousand feet during the remaining three years.

Our company was supplied with gas from this field for six years; at the end of which the supply had become inadequate.

Sought New Supply

New territory in Ashland, Medina, Holmes and other counties was being developed by the Medina Gas & Fuel Co. and during 1911 a contract was entered into with that company to supply our community.

This new contract brought a more satisfactory supply and in 1915 the city council fixed a price, for a ten-year period, of 33 cents per thousand feet, with a monthly charge of 50 cents which included the first thousand feet of gas consumed. This rate became effective and continued until 1918 when, during the war, the people were limited as to purchase of coal and other fuels.

For these and other reasons our company set about to have a new ordinance passed, fixing the price for three years. We recommended a step-up rate, believing that kind of rate would be more effective in promoting conservation. The city concurred with us and fixed a rate, for the winter months, of 50 cents per thousand for the first 25,000 feet; 60 cents per thousand for the next 5,000 feet and 70 cents per thousand for all gas used in excess of 30,000 feet; the summer rate was fixed at 50 cents, net, per thousand. We believe that we were the first company to put into effect the step-up rate.

Even with this rate the company was not making a fair return and steps were taken to establish some price that would give this return, resulting in the Public

(Continued on Page 84)

You Can't Always Avoid Leaks—

But you can reduce leaks to the irreducible minimum by installing Darling Gate Valves. They have proven their worth not only as the tightest seating valves, but are equally as noted for their ease of operation, long wear and freedom from repairs.

In the Darling Gate Valve all working parts are plain and free from pockets where scale and sediment might collect to interfere with tight closing or full opening. The wedges, released by the first turn of the stem, cannot get out of position to interfere with the rise of the discs.

Not only do the discs rotate, providing self-cleansing faces, but they cannot bind and jam even when the valve is fully open.

Finally, old timers who have used Darlings for years in preference to all others will tell you that when Darlings do need attention, which is seldom, they are the most easily repaired valve in the field.

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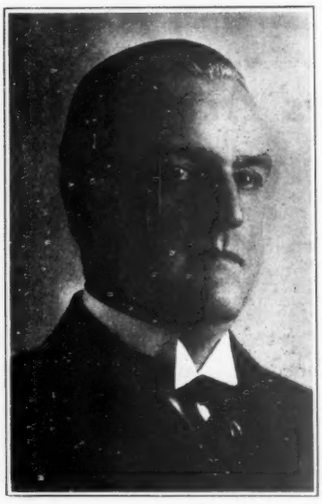
MEN KNOWN IN OILDOM



Dr. Van H. Manning

Dr. Van H. Manning, formerly director of the United States Bureau of Mines, later associated with the American Petroleum Institute as director of research, and who resigned recently to accept a position with the Pan American Petroleum & Transport Company, is recognized as one of the leaders in the movement for fundamental research in the oil industry, and is expected to devote considerable attention to problems of this character in connection with his new duties.

Doctor Manning was born at Horn Lake, Miss. He attended the University of Mississippi from 1878-81, showing marked interest in scientific subjects. His subsequent work and investigations equipped him for the degree of Doctor of Engineering, which was conferred upon him by the University of Pittsburgh, in 1919. His first sustained efforts in scientific work came during his service as a civil engineer for the United States Geological Survey, from 1885-1910, when he transferred his allegiance to the Bureau of Mines.

He was made assistant director of the Bureau of Mines in 1911 and became director in 1915, holding this place until 1920, when he took up his duties with the American Petroleum Institute. He is a member of many scientific societies covering every phase of engineering, mining, chemical and associated investigations. He is also a member of many clubs.

PERSONAL PARAGRAPHS

Don Long, independent operator of Tulsa, was in Wichita Falls, Tex., on business during the past week.

* * *

George D. Locke, vice president of the Barnsdall Refining Company, Chicago, was a recent visitor in Tulsa.

* * *

C. L. Griffith, chief geologist for the Espuela Oil Co., (Swanson interests), has returned to Mexico after visiting Texas.

* * *

L. E. Phillips, vice president of the Phillips Petroleum Company, Bartlesville, Okla., was visiting friends in Tulsa during the past week.

* * *

B. G. Botkin of St. Mary's, Ohio, well known as a driller and tool man, reached Casper, Wyo., from the Buckeye State last week. Mr. Botkin is a fisherman of excellent reputation in the oil fields with records in the recovery of lost tools in the Eastern fields and Oklahoma.

Howe Walker, former representative for the Hughes Tool Company at Shreveport, La., is now in Tampico, Mexico, on company business.

* * *

Don J. Butler, sales manager of the Butler Manufacturing Company, Kansas City, Mo., has been touring the Rocky Mountain fields recently.

* * *

J. T. Perryman, of the land department of the Prairie Oil & Gas Company, at Eastland, Tex., has been visiting the Tulsa offices of the company.

* * *

R. Otis McClintock, vice president of the Gypsy Oil Company, has returned to his Tulsa office after a short trip through the Rocky Mountain region.

* * *

T. O. Sullivan, vice president and general manager of the Hope Natural Gas Company, made a business visit to Clarkesburg, W. Va., last week.

* * *

Fred W. Eastman, formerly in charge of the Ponca City office for the Gypsy Oil Company, has been transferred to the Tulsa office of the company.

* * *

L. A. Babb, formerly of Augusta, Kans., has been appointed district manager by the Bridgeport Machine Company, with headquarters at Depew, Okla.

* * *

W. L. Stephens, assistant general manager of the New England Fuel Company, of Tampico (Magnolia Petroleum) is in Houston, Tex., on a business trip.

* * *

C. O. Dale, formerly of Oil City, Pa., is now with the Magnolia Petroleum Company as chief engineer at the Hull, Tex., station on the trunk pipe lines.

* * *

Harry I. Miller, district sales manager for the Detroit Graphite Company, Chicago, has returned to his office after spending several days in the Casper area.

* * *

A. B. Steen, consulting engineer of The Texas Company, with Houston, Tex., as headquarters, has been in New York City for two weeks on a business mission.

* * *

Joe A. Myers, of Beaumont, Tex., representing the Unity Oil Company, was making a tour of the North Central Texas Field the past week in the interest of his company.

* * *

R. J. Moore, general manager of the Dayton Pipe Coupling Company, Dayton, Ohio, has been spending a few days calling on the oil trade in and around Denver, Colo.

* * *

Max Elser of Cisco, Texas, was in Fort Worth during the past week making arrangements to drill a wildcat test on a block of acreage he owns in west Mitchell County.

* * *

C. J. Wrightsman, independent oil producer of Tulsa, spoke at the weekly luncheon of the Okmulgee District Oil and Gas Association, in Okmulgee, Okla., recently.

* * *

M. J. Sullivan of Kansas City, Mo., an Independent operator, was in Archer County, Texas, during the past week, on an inspection tour of properties he owns and manages.

* * *

W. W. Copp, well known to California operators as a geologist, has been placed in charge of the Marland Oil Company's geological work in the southern part of the State.

* * *

N. G. Guiberson, general sales manager for the Guiberson Corporation, and R. S. Haseltine, general manager, both of Dallas, Texas, have been spending several days in Tulsa.

* * *

Joseph Wilkin, of Petrolia, Ont., for the past three and one-half years with the International Petroleum Company in Peru, is spending four months in Canada on furlough.

* * *

Dr. Van Holtz Pellekaan, general manager of the land and geological department, T. K. Hamberger, chief geologist, W. C. Bean, geologist, and D. M. Piggot, head of the land department of the Roxana Petroleum Corporation, headquarters at Tulsa, inspected the company's properties in the North Central Texas Field the past week.

R. C. Holmes, vice president of The Texas Company, who has been inspecting the properties of the company in Mexico has left Tampico for New York after a stay of five days in Mexico.

* * *

Patrick M. Longan, manager of the Mexican Seaboard Oil Company's interests in Mexico has returned to Tampico headquarters after a stay of eight months in the United States.

* * *

J. M. Crawford, president, and Ed D. McCally, district manager in the Rocky Mountain region for the Parkersburg Rig & Reel Company spent a few days in the vicinity of Denver, Colo.

* * *

John McCarty of the McCarty Oil Company, operating in Wichita and Archer counties in Texas, has returned from a 30 days' business trip to Columbus, Ohio, and other Eastern cities.

* * *

Joseph Dawson, who has been doing geological work for the Gulf Refining Company interests in Venezuela for the past year, has returned to Houston, Tex., and will remain in this country.

* * *

R. L. Long, Arkansas and Louisiana representative for the Hughes Tool Company of Houston, Tex., was in Shreveport, La., for a few days. Mr. Long maintains headquarters at El Dorado, Ark.

* * *

Joe Weaver, president, and Harry Taylor, secretary of the States Oil Corporation, Eastland, Texas, toured the Young County Field last week. The company is drilling a well in the Carter Bend district.

* * *

D. S. Bushnell, of New York, president of the Northern Pipe Company, John Bartlett, of Oil City, Pa., and J. P. Blackford, of Oil City, Pa., attended a company directors' meeting in Pittsburgh last week.

* * *

C. W. Pardo, of the executive staff of The Texas Company, of Mexico, has returned to Tampico from a visit to the United States, a visit which allowed him to shake off a case of fever which was bothering him.

* * *

John Shakely of the Frick-Reid Supply Company, has been inspecting the fields of the Rocky Mountain region. He was met in Denver by George D. Paine of Casper, Wyo., district manager for the company, who accompanied him to Wyoming.

* * *

L. C. (Fan) Holt, a well known driller in the Mid-Continent fields, has returned to Wichita Falls, Tex., from a stay of three years in the oil fields of Upper Burma, India. Mr. Holt was in charge of field operations in that territory for the Burmah Oil Company, an English syndicate.

* * *

Phil B. Dolman, geologist, associated with the Carter Oil Company, Tulsa, for the past six years, has resigned to enter private practice. Mr. Dolman will make a tour of the Western and Coastal oil fields before opening his office in Tulsa.

* * *

David Donoghue, consulting geologist of Houston, Tex., has returned from a two weeks' trip to New York and Washington, D. C. Mr. Donoghue is credited with working out the Luling structure for the United North & South Oil Company.

* * *

Rot McGarrah, an Indian from Alberta, Canada, is seeking a contractor to drill a well on leases that some of the Indians have blocked up near the Canadian border. Many of the Indians of Alberta Province in Canada have taken Scottish names.

* * *

J. C. Siegel and W. M. Neckerman, officials of the Youngstown Sheet & Tube Company of Youngstown, Ohio, are looking over the Wyoming territory. Mr. Neckerman is superintendent of the tube department and Mr. Siegel is manager of the Youngstown plant.

* * *

James S. Posgate, chief mechanical engineer of the Mexican Eagle Oil Company, Ltd., for a number of years, with headquarters at Tampico, has left that place for British Colombia. He had a wide acquaintance among oil men of all nationalities in Mexico.

Two more packers for you to feast your eyes on. The long slim one like a stick of peppermint candy is an "Oilwell" Texas Canvas Packer, and there's nothing more to be said at all, for the picture tells the story except for the quality of the product, and there isn't an oil man in the fields needs to be told about the kind of stuff "Oilwell" puts out.

The other one is an "Oilwell" Bottom Set Combination Wall and Anchor Packer. If the bottom of the hole goes through to China this packer'll stay put. It's the slips that catch against the walls that do that, and a wonderful invention they are.

Now's the time to ask questions—and you'll find us glad to answer 'em. Just write, that's all. **"Packers that pack."**

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Merchandising Natural Gas Appliances

Proper Organization Will Go Long Way Toward Aiding Relations Between Consumers and the Different Companies

By A. W. Baker
Delivered before the Natural Gas Association of America at Cleveland, Ohio, May 20

Natural gas producers, pipe line or transportation companies and distributing companies are all affected by gas appliance merchandising activities.

The production, transportation and distribution of natural gas is a well developed industry. The market to be supplied as a result of these activities is not relatively as well developed.

The final market for natural gas is the consumer, who, to use natural gas in the most economical manner, must be acquainted with and provided with appliances which render the service he desires in a safe, efficient manner.

It is of great importance to the future of the natural gas industry that we know the present and future possibilities of our market and develop those possibilities as rapidly as is consistent with sound business policy.

At the present time in most natural gas communities there is a normal and gradual replacing of obsolete and inefficient gas appliances with modern and efficient gas appliances. This is one of the reasons why we find some gas distributing companies with no increase in gas consumption and revenue figures, even though the community has enjoyed average prosperity and increases in building and population. It is of fundamental advantage to the producer, pipe line and distributing companies and also the customers of the distributing companies that this change from obsolete to modern appliances be as rapid as possible, and that customers should become more fully acquainted with additional gas appliances now on the market which render a service that cannot be equalled, at less cost, considering convenience, cleanliness, public welfare and present day standards of living.

Need of Active Medium

To accomplish this we must have some very active medium through which we can fully acquaint all consumers and possible consumers of natural gas with the highly developed appliances using gas best suited to give the desired service. A distributing company merchandise sales department is the most desirable and satisfactory medium.

When organizing, reorganizing or conducting distributing companies merchandise sales operations, the management of such companies should first be sold on the value of properly conducted gas consuming merchandise sales operations as effecting present and future prosperity of the distributing companies, both from an increased gas consumption and revenue standpoint as well as good will building value of these operations. The management should fully realize that retailing of gas consuming merchandise in quantity is a highly skilled merchandising operation which must be conducted along advanced specialty selling lines if it is to be a success.

Policy of Sales Department

In forming a policy for the sales department, first decide upon a level of operations in keeping with the results desired, within a given period of time, from the field under consideration. Under proper financial conditions we should not take 10 years to develop to a certain point a field that can be developed at no greater expense within two years.

The sales manager should budget his operations to the extent of arriving at the expense of the sales department operations as affecting the gas consumption and revenue figures of the distributing company. This can be done in the following manner:

Estimate sales department expense to place in use a given number of gas appliances.

Estimate the average yearly consumption of appliances to be sold.

Estimate average yearly consumption of appliances which will be replaced.

Deduct the estimated consumption of the appliance which will be replaced from the estimate consumption of the appliance to be sold.

Apply the estimated average rate per thousand to the estimated net increase in consumption resulting from merchandise sales operations.

Other Benefits Derived

This gives us the sales department cost per dollar of yearly increased gas revenue due to the sales operation. It would seem that this expense could be properly assumed by the producer, pipe line and distributing company as all profit by this improved market condition.

Other benefits received directly by the distributing company and indirectly by the pipe line and producing companies from merchandise sales operations are: Improvement in public good will through greater contact and understanding with customers, and customer's satisfaction through using modern, efficient, labor saving gas appliances best suited to their needs. The distributing company's merchandising sales department should be consolidated with the gas distribution office and centrally located in the business section of the community served. The display or sales floor and windows should be of sufficient capacity to permit of up-to-date displays of gas using merchandise best suited to the community, including small industrial appliances.

Function of Department

The three most important functions of the sales department in their order of importance would be:

First: Hold all present customers and present revenues.

Second: Secure new customers than can be secured on a profitable basis.

Third: Sell practical labor saving gas revenue producing appliances to all customers.

The best way to hold a present customer is to know through personal contact that he is satisfied and is properly served.

The best way to secure a new customer is by knowing he exists, his condition and showing him that you have something for him that it is to his advantage to use.

The best way to sell revenue producing appliances is along the same general lines used by all high grade specialty sales organizations, such as those selling automobiles, phonographs, sewing machines, including methods used by high grade department store when selling over the counter to the people of a community.

If all this is to be accomplished by the sales manager, it is easy to see that he must understand the workings in general of a gas distributing company and the service it is expected to render. He must be a skilled merchandiser in the full sense of the word, including campaign manager and advertiser, and always in readiness to render assistance of a general nature to the management.

Cooperation With Builders

A distributing company merchandise sales department organized and operated in general along the lines outlined is in a position to cooperate with architects, builders, plumbers and appliance manufacturers in a manner which results to the advantage of all parties concerned.

The sales department should provide architects with full and complete information suitable for architects' files on all equipment which uses gas, and information on probable developments in the gas industry and in gas burning equipment. This enables the architect to make proper provision for the use of not only modern gas burning equipment on the market, but also enables him to make reasonable allowances for probable developments in gas burning equipment. This cooperation not only aids the architects but is of benefit to the distributing company, as it assists the customer to secure more and better gas equipment and helps to eliminate future complaints.

The sales department should keep a record of all building permits and render the builders a complete advisory service on the complete line of modern, safe, efficient, economical, labor saving, gas using appliances best suited to the use which will be made of the construction under consideration. The builder is then in a better position to make proper provision for safe and workmanlike installations of gas appliances.

This cooperations not only aids the builder but is of benefit to the distributing company, as it assists the gas customer to secure and have properly installed the gas appliances best suited to his needs, and assists the distributing company to give the customers the service he desires.

As a rule local plumbers do not have the sales organization or capital to market large quantities of gas merchandise in comparatively short periods on long time payment plans.

Many plans have been and are being worked out which assist plumbers to increase their sales of high grade gas appliances and installations. In some communities it is possible to make arrangements with local plumbers so that the installation of all equipment or appliances sold can be made by them.

Intensive gas merchandise sales operations on the part of the distributing company sales department usually have a tendency to make a great deal more gas appliance and installation business for local plumbers than would otherwise be the case.

The sales department should distribute literature among plumbers showing latest and most improved types of gas appliances and best methods of installing same. The sales department should make every effort to acquaint more fully

(Continued on Page 80)

MISCONCEPTIONS OF PUBLIC ABOUT NATURAL GAS SHOULD BE CORRECTED

By E. J. Stephany
Before the Natural Gas Association of America, Cleveland, Ohio, May 22

In the minds of most users of natural gas there are many questions about various phases of our business. Some questions may be accompanied by incorrect or mistaken ideas, some by vague notions and others by no answers of any kind.

We, ourselves, are responsible for the incorrect impressions which are afloat and for the unanswered questions and vague notions which exist. We have never let the public as a whole know that there are no secrets in our business, that we are pleased to answer all their questions, and that we want them to understand us and our problems thoroughly.

A reference to air in the gas may bring a smile of ridicule to the gas man's face, but many people actually believe that air is pumped into the lines. Have we always been able to satisfactorily answer such a remark? We know that all gas lines, with the exception of some well collecting and field lines, always have a gas pressure on the inside higher than the atmospheric pressure on the outside, and that gas would leak to the outside instead of the air rushing into the pipe if poor joints or other leaks exist. We know that where it is possible for air ot be drawn in we must carefully guard against this potential danger because of the likelihood of damage to our own property by explosion, if for no other reason. We know these facts, but do we tell our customers?

Because air is drawn into a burner at the mixer on the customer's own premises, because a hissing noise is heard under certain conditions and because flames can be blown away from a burner by the injection of excess air, conclusions that similar phenomena are caused by the gas company's putting air in the gas seems quite logical. We can and should correct such impressions.

Because of lack of correct information, we frequently hear people remark about the poor quality of the present-day natural gas because of the removal of gasoline. Again we know that the removal of gasoline actually does lower the heating value of the gas at the gasoline plant, but that this reduction has no effect on the heating value of the gas at the users' appliances. The recovery of one-fourth gallon of gasoline from each thousand feet of gas would remove about 3 per cent of the total heat units. But the gasoline vapor exists in such a form that practically none of it ever could be delivered to the ultimate consumer. It would condense in the lines and be wasted through the drips. It would destroy the rubber couplers in pipe lines, causing leakages of gas. It could cause interruptions or disturbing of service. The removal of gasoline from natural gas is a real conservation operation.

Many gas users believe that the heating value of gas is much lower during cold weather when pressures are less than during normal times. They do not realize that the increase in the heating value due to the greater density at lower temperatures more than compensates for the slight decrease in the heating value per volume due to lower pressures. It is perfectly natural for a customer to conclude that "there is less heat in the gas" when a burner orifice is too small to pass a sufficient volume of gas at low pressures. Less heat from the burner because of less heat in the gas seems logical to the layman. Where it is possible to readjust a correctly designed burner at each pressure condition, or where a burner has been properly ad-

(Continued on Page 130)

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Oxnard, California
May 22, 1924

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EQUIPMENT AND SUPPLIES

FORGED STEEL VALVES FOR OIL COUNTRY WORK

The Columbus Machine Co., Columbus, Ohio, established in 1849, formerly builder of the Columbus gas and steam engines, after years of experimental work in developing forged steel valves and fittings, is announcing to the oil industry its Hytest Forged Steel Valves for drilling, line pipe and refinery service. These valves are especially adapted and suitable for high temperature in refinery and high pressures in line and drilling operations.

In its early stages in making forged steel valves from solid billets, this company was unable to compete favorably with cast steel valve manufacturers, but after the perfection of its new patented process of extruding the valve bodies, hubs and superstructure of the valve into dies especially made, it offers to the oil country trade a valve in which it claims a higher factor of safety than attainable in any valve using any other metals.

The Hytest valves are tested to 3,000 lbs. hydrostatic pressures and one of the largest oil refineries which tested out this valve under excessive pressures and temperatures reports the performance extremely satisfactory, showing only a slight distortion of from .0022-inches to .0024-inches from flange to flange under 2,000 pounds hydrostatic pressure.

The company announces it is manufacturing the valves for refinery service of standard design and standard construction, rising and nonrising stems and trimmed with either steel, Monel or bronze. For line pipe service it is manufacturing a valve with either rising or nonrising stems, flanged or screwed ends and trimmed in any way desired. Its heavy duty drilling valves are claimed to be especially adapted for oil country service as their weight is considerably less, meaning a considerable saving in transportation and greater utility in the field. The drilling valves are made in sizes from 4¼-inch to 12½-inch.

The advantages claimed by the manufacturer of this valve are that materials used eliminates any chance of porosities under pressures or temperatures and the factor of safety is increased to the highest possible point without disregarding efficiency.

Cooperating with the International Nickel Co., the manufacturer of Monel metal, the Columbus Machine Co., is developing by its patented process an all-Monel forged valve for high temperatures and for acid work. It expects to announce this to the trade within a short time and furnish samples of valves made of forged Monel metal.

The general sales offices of the company are at 25 Broadway, New York, and bulletins can be secured on request. The plant is at Columbus, Ohio, but arrangements are also being made to establish a manufacturing plant within the metropolitan district of New York in order to effect quick deliveries to the metropolitan trade and for export.

HEAT RESISTING ALLOYS

An attractive booklet entitled "Fahrite Castings," published by the Ohio Steel Foundry Co., Springfield, Ohio, tells about the uses of a series of heat resisting alloys. The purpose of Fahrite, as stated in the booklet is to offer industries a high temperature service rather than stock service. The variables in high temperature service differ widely and for this reason particular solutions of particular problems are made necessary. Fahrite equipment is made for special problems requiring high heat resistance.

DECLINE IN STEEL PRICES SMALL; PRODUCTION AT FIVE YEAR AVERAGE

By B. E. V. Luty

PITTSBURGH, May 19.—Statistics of steel ingot production in April, just issued, show what a remarkable decrease there has been in mill operations, just as previous statistics had shown what a remarkable increase there was after the first of the year. By a wide margin there has been the most rapid increase and decrease in the rate of steel production that has occurred in the whole history of the steel industry. In brief, the rate of steel production increased from the end of December by over 40 per cent to the beginning of March, and then after being substantially stationary for no more than two or three weeks it had lost all the gain by the beginning of this month. Since then there has been merely a slight further declining tendency.

The present rate is now just a trifle below the December rate, which had been the lowest since September, 1922, but on the other hand it is approximately equal to the average rate in the five post war years 1919 to 1923, inclusive, that rate having been 30 per cent above the average rate in the five years before the war, 1909 to 1913, inclusive.

The lesson to be learned from this spectacular and unprecedented performance in steel production is that steel cannot be taken as a quantitative measure of business activity and prosperity as it used to be. Business in the United States did not improve by 40 or 45 per cent in two months and then lose all that gain in two months more. The changes in general industrial activity has been very slight. On account of the large capacity the steel mills filled orders with remarkable speed, when buyers undertook to replenish stocks, and now the buyers are liquidating. The period of very heavy production was so short that the liquidation will not take long. The prospect at the moment is that steel production will reach a low point in July and that a substantial recovery will then set in.

All along the line the finished steel markets have continued quiet in the past week, some lines being quieter than others. In a few spots a little increase is noted in buying, chiefly by way of buyers piecing out stocks.

More Resistance Shown

While steel prices, on the whole, have been exhibiting a softening tendency for two or three months past, the actual declines are small, and some lines have not declined at all, notably rails, pipe and tin plate. Wire products have merely weakened a trifle. It was more than a year ago, in April, 1923, that steel prices ceased advancing. There were substantial advances in that month, the advancing movement making a strong finish.

While sharply decreased mill operations and light demand would suggest substantial declines in steel prices, judged by prewar precedents, the steel mills recognize how difficult it would be to advance prices, once they got down, and there is correspondingly more resistance to decline. Bars, shapes, and plates, which had the most definite decline, have been steady in the past fortnight, at 2.20 cents to 2.30 cents.

The majority of the trade expects a decline in merchant pipe and oil country goods in the not distant future. Up to date the market has held firm, on the basis of the lists of April 19, 1923. In fact, recognizing the feeling in the trade, the pipe mills have been particularly punctilious in avoiding anything that would savor of price concession. Jobbers in various sections have been shading prices on merchant pipe, to hasten liquidation of stocks, but this is merely competition between jobbers. Early in April a prediction was made that pipe mills would reduce prices "soon" and this prediction stimulated liquidation, but even now there is no sign of a reduction. There seems to be little doubt that eventually there will be a reduction, but all the circumstances, including the behavior of other finished steel products, suggest that individual reductions will not be large and that they will be far apart.

Oil Drilling Supplies

The pipe mills have thus far observed no decline in buying of oil drilling supplies traceable to the downward trend oil prices have just developed, but would not be surprised to see a decrease. Demand has been very good, indeed, since the first of the year. Demand for line pipe on the other hand has been very poor. The McCorkle line is understood to have been placed, but involving only some 25,000 tons, or say one-fourth of what was originally expected, and this is by far the largest tonnage of the year. Thus there is no prospect of this being a good line pipe year, while last year was a record in line pipe bookings. Demand for merchant pipe was good in the first two months of the year and then began to taper off, having been quite light in the past few weeks.

A Chicago tank maker has bought 1,500 tons of plates for making tanks for the Standard Oil Co. at Detroit. The McCorkle Pipe Line Co. is understood to have placed 24 tanks of 35,000-barrel capacity and 36 of 55,000-barrel capacity, involving 10,000 to 12,000 tons of plates.

NEW UNLOADING PUMP IS PLACED ON MARKET

The Dempster Mill Manufacturing Co., organized in 1886, has recently placed on the market a new specially designed pump for unloading gasoline, kerosene, distillate, etc., at bulk station plants.

In ordinary bulk stations two unloading pumps are used, one for gasoline and one for kerosene, and it has been the common practice to have a single unit operated by a separate jack to do this work. It is very hard to hold single unit outfits, operated by a separate jack on any kind of foundation. This new Dempster outfit has both pumps mounted together on a solid one-piece cast iron base with the power jack attached to one pump. By simply changing two bolts at the crosshead of the pump, change in operation can be made from one pump to the other. It is operated without vibration or movement on any kind of foundation.

NEW MONKEY WRENCH

Shortly after the organization of the Trimont Manufacturing Co. in 1888 at Roxbury, Mass., a new patented pipe wrench, with improved features, designed and patented by the then treasurer and general manager of the company, Edward O. Ely, took the place of the original pipe wrench manufactured by the concern. In addition, the company is known as the maker of the Trimo chain pipe wrench and the Trimo pipe cutter. Recently the company has placed upon the market the new Trimo monkey wrench.

NEW YORK REPRESENTATIVES

The Edward Valve & Manfuacturing Co. will be represented in the New York district after May 1 by the Dunbar Engineering Co., 50 Church Street, New York City.

STARTS MANUFACTURE OF GASOLINE ENGINES

The Climax Engineering Co., Clinton, Iowa, successor to the Lamb Boat & Engine Co., at one time one the largest manufacturers of marine engines, has greatly enlarged the plant facilities and equipment, and started the manufacture of gasoline engines for tractor and general power purposes. The physical equipment of the Climax company comprises complete machine shops, foundry, stock warehouses, assembling and general office buildings, etc. The main plant, which covers an entire city block, is at the foot of South Fourth street, Clinton, Iowa, on the Mississippi river. The Climax foundry, covering half a city block, nearby, is completely equipped with every modern device to insure speedy and reliable production. Since the company manufactures all parts of its engines, with the exception of carburetors and electrical equipment, the quality of its product is at all times controlled and kept up to the high standard established several years ago. To supplement its line of gasoline engines, the Climax company is also developing a line of crude oil engines of the true Diesel type, with capacity ratings from 50 to 400 horsepower, depending upon the number of cylinders. The company also operates its own factory branch under the name of Climax Engineering Co., at Los Angeles, Cal., and an office in the Leader-News building, Cleveland, Ohio.

APPOINTED TO HANDLE EQUIPMENT ON COAST

C. L. Reeder, manager of the oil equipment department of the A. Y. McDonald Mfg. Co., of Dubuque, Iowa, has just returned from a trip to the Pacific Coast where he completed arrangements with the U. S. Flexible Metallic Tubing Co. of San Francisco, Los Angeles and Seattle, to handle for the Coast territory the A. Y. McDonald Manufacturing Co.'s complete line of oil equipment.

J. A. Strehlow is manager of the Seattle branch. Mr. Strehlow is a man of exceptional mechanical ability and will be remembered as having been in charge of the Palace of Machinery during the San Francisco World's Fair.

The A. Y. McDonald line comprises practically all items of oil handling equipment used by jobbers and many items used by refiners and natural gasoline manufacturers. The company is said to be the world's largest maker of swing joints. In addition to having main factory branches at Omaha, Des Moines and Minneapolis, complete stocks of McDonald equipment are also carried by the Butler Manufacturing Co., Kansas City, and the Sharpsville Boiler Works Co., Sharpsville, Pa. Complete stocks will now be carried on the Pacific Coast, where, according to Mr. Reeder, the outlook for business is exceptionally good.

DIESEL ENGINE BOAT

Two Worthington Diesel engines, four-cylinder type, 120 horsepower each, have been installed on the "Harvey," a reversible Diesel engine driven stern wheel towboat, owned by T. L. Herbert & Sons, Nashville, Tenn. The trial and demonstration trip, recently completed, was witnessed by engineers from all sections of the country, among them being Colonel Dent of the United States Engineers, Major Stickney of the Mississippi River Commission and Captain Mitchell of the United States Engineers. The Harvey is 113 feet long, has a beam of 26 feet and a draft of 3 feet. The boat was constructed at a cost of $50,000 and will operate upon the Mississippi River and its tributaries.

Here's What Happens When Rust Gets A Chance

(245)

A tank roof honeycombed with rust holes—evaporation losses many times multiplied—early repairs, if not a gauger drowned, or replacement of the entire roof.

That's why you should paint the underside of your tank roofs.

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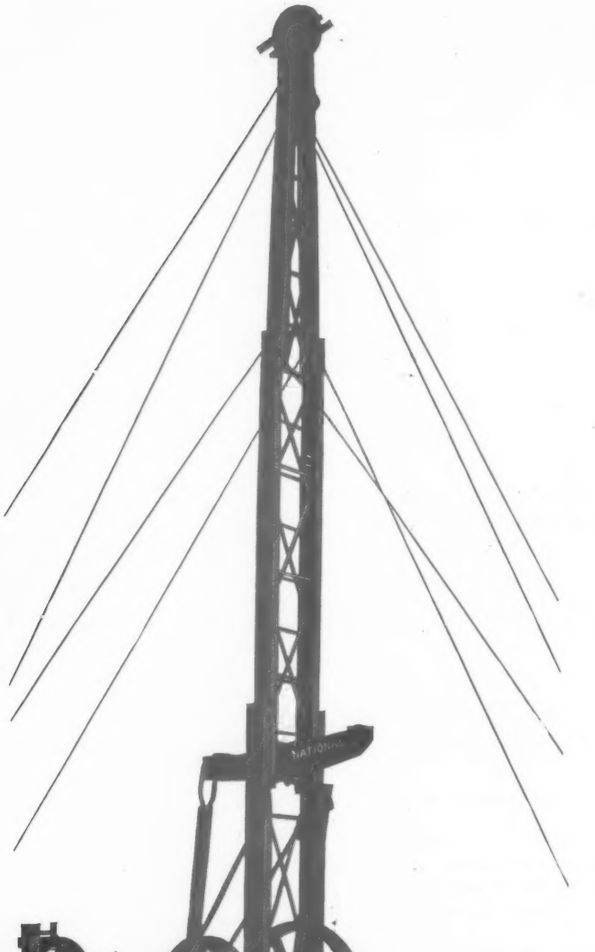
LOS ANGELES

Name
Position
Company Name
Address
State
Detroit Graphite Co.
521-12th St.
Detroit, Mich.

DEGRACO PAINTS ARE SOLD THROUGH BRANCH OFFICES WITH WAREHOUSE STOCKS IN ALL PRINCIPAL CITIES
MANUFACTURED IN CANADA BY DOMINION PAINT WORKS, LIMITED, WALKERVILLE, CANADA

NATIONAL PORTABLE



No. 2 National Portable Drilling Rig

No. 2 Standard Porta
Rig rated capacity
friction drive-wood

No. 2A all steel Porta
Rig rated capacity
friction drive-steel

No. 3 all steel Portable
Rig rated capacity
clutch drive-steel

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NSCO

THE NATIONAL SUPPLY

ALE DRILLING RIGS

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No. 3 National Portable Drilling Rig

SUPPLY COMPANIES

NSCO

Natural Gas Production and Consumption, 1922

By G. B. Richardson
U. S. Geological Survey

In 1922 the consumption of natural gas in the United States amounted to 762,546,000,000 feet, having an estimated value of $84,873,000 at the wells and of $221,535,000 at points of consumption. This is 15 per cent more than the quantity consumed in 1921 and 4 per cent less than that consumed in the record year, 1920. One-third of the natural gas consumed in 1922 was used for domestic purposes by 3,015,000 consumers, and the rest was used by the industries.

Increased production is recorded for most of the States, and in the leading five—West Virginia, Oklahoma, Pennsylvania, California and Louisiana—gains were made ranging between 8 and 20 billion feet. Only a few changes were recorded in the rank of the States in production. Wyoming, with an increase of 50 per cent in output, attained eighth place, passing Kansas; and Arkansas, with an increase of more than 125 per cent, went from twelfth to tenth place, passing Kentucky and New York. In consumption, however, several of the leading States changed positions as compared with 1921. Pennsylvania regained first place, having dropped to third in 1921; Ohio changed from first to second, Oklahoma from second to third, California from fifth to fourth and West Virginia from fourth to fifth.

The interstate movement of natural gas increased from 150,000,000,000 feet in 1921 to 179,000,000,000 feet in 1922. West Virginia, which contributed 26 per cent of the total production and consumed less than 11 per cent, contributed 66 per cent of the gas that was transported to other States.

During the last few years there has been a considerable increase in the unit value of natural gas, the average value at the points of consumption increasing from 21.6 cents per M feet in 1919 to 29.1 cents in 1922. The average value per M feet of the gas used in domestic consumption has increased more than 15 cents in the last four years and in 1922 was 49.9 cents. The following tables were compiled by H. Backus:

SUMMARY OF STATISTICS OF NATURAL GAS, 1919-1922

	1919	1920	1921	1922
Natural gas consumed (M cubic feet):				
Domestic consumption	255,743,000	286,001,000	248,334,000	254,413,000
Industrial consumption—				
Carbon black	49,896,000	40,599,000	50,565,000	53,629,000
Field use	169,787,000	202,108,000	182,305,000	197,850,000
Other industrial	270,490,000	269,502,000	180,843,000	256,654,000
	745,916,000	798,210,000	662,052,000	762,546,000
Domestic (per cent)	34.3	35.8	37.5	33.4
Industrial (per cent)	65.7	64.2	62.5	66.6
Domestic consumers	2,501,000	2,615,000	2,631,000	3,015,000
Value of natural gas at wells:				
Total	*	*	*	$84,873,000
Average per M cubic feet, cents	*	*	*	11.1
Value natural gas at points of consump:				
Total	$160,888,000	$196,194,000	$174,617,000	$221,535,000
For domestic purposes	88,414,000	109,302,000	110,337,000	126,902,000
For industrial purposes	72,474,000	86,892,000	64,280,000	94,633,000
Average per M cubic feet (cents)—				
For domestic purposes	34.6	38.2	44.4	49.9
For industrial purposes	14.8	17.0	15.5	18.6
Domestic and industrial	21.6	24.6	26.4	29.1
By-products of natural gas:				
Natural gas gasoline—				
Quantity (gallons)	351,500,000	384,700,000	449,900,000	505,800,000
Value at plant—				
Total	$64,197,000	$71,788,000	$61,815,000	$72,711,000
Average per gallon (cents)	18.3	18.7	13.7	14.4
Carbon black—				
Quantity (pounds)	52,100,000	51,300,000	59,800,000	67,800,000
Value at plant—				
Total	$3,816,000	$4,032,000	$5,446,000	$5,820,000
Average per pound (cents)	7.3	7.9	9.1	8.6

*Figures not available prior to 1922.

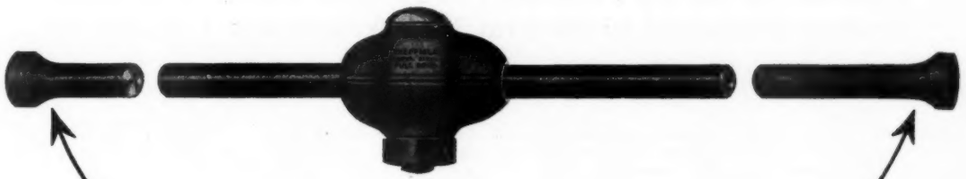
NATURAL GAS PRODUCED AND CONSUMED IN THE UNITED STATES, 1921-22

State—	Produced and delivered to consumers, including deliveries in other States. Quantity M cu. feet	Quantity Pct. of total	Estimated value at the wells Total	Aver. per M cu. ft. (cents)	Value at points of consumption Total	Aver. per M cu. ft. (cents)	Consumed, including receipts from other States. Quantity M cu. feet	Quantity Pct. of total	Val. at points of consumption Total	Aver. per M cu. ft. (cts.)
1921										
Ark.	4,260,000	0.6	†	†	$984,000	23.1	10,637,000	1.6	$2,451,000	23.0
Cal.	75,942,000	11.5	†	†	16,496,000	21.7	75,942,000	11.5	16,496,000	21.7
Colo.	4,000	*	†	†	1,000	25.0	4,000	*	1,000	25.0
Ill.	2,646,000	.4	†	†	356,000	13.5	2,630,000	.4	348,000	13.2
Ind.	1,066,000	.2	†	†	547,000	51.3	2,954,000	.4	1,520,000	51.5
Iowa	700	*	†	†	300	42.9	700	*	300	42.9
Kans.	15,717,000	2.4	†	†	7,382,000	47.0	26,172,000	4.0	9,602,000	36.7
Ky.	4,820,000	.7	†	†	1,597,000	33.1	13,667,000	2.1	4,526,000	33.1
La.	58,004,000	8.8	†	†	5,460,000	9.4	53,027,000	8.0	3,926,000	7.4
Md.	200	*	†	†	100	50.0	625,000	.1	418,000	66.9
Mich.	400	*	†	†	300	75.0	400	*	300	75.0
Mo.	4,000	*	†	†	3,000	75.0	4,467,000	.7	3,463,000	77.5
Mont.	336,000	*	†	†	89,300	26.6	336,000	*	89,300	26.6
N. Y.	6,583,000	1.0	†	†	2,798,000	42.5	15,541,000	2.3	6,596,000	42.4
N. Dak.	1,000	*	†	†	400	40.0	1,000	*	400	40.0
Ohio	47,412,000	7.2	†	†	19,216,000	40.5	106,051,000	16.0	43,221,000	40.8
Okla.	134,058,000	18.7	†	†	23,429,000	18.9	100,903,000	15.2	15,989,000	15.8
Ore.	200	*	†	†	100	50.0	200	*	100	50.0
Pa.	86,144,000	13.0	†	†	32,815,000	38.1	100,615,000	15.2	38,246,000	38.0
S. Dak.	9,700	*	†	†	4,000	41.2	9,700	*	4,000	41.2
Tenn.	1,000	*	†	†	2,000	23.6	11,000	*	2,600	23.6
Texas	44,504,000	6.7	†	†	8,893,000	20.0	51,341,000	7.8	10,720,000	20.9
W.Va.	174,920,800	26.4	†	†	52,827,900	30.2	81,509,000	12.3	16,282,000	19.7
Wyo.	15,608,000	2.3	†	†	1,715,000	11.0	15,608,000	2.3	1,715,000	11.0
	662,052,000	100.0	†	†	174,617,000	26.4	662,052,000	100.0	174,617,000	26.4
1922										
Ark.	9,700,000	1.3	$873,000	9.0	1,798,000	18.5	17,826,000	2.3	3,306,000	18.5
Cal.	84,580,000	11.1	7,613,000	9.0	17,898,000	21.2	84,580,000	11.1	17,898,000	21.2
Colo.	4,000	*	400	10.0	560	14.0	4,000	*	560	14.0
Ill.	3,383,000	.4	372,100	11.0	424,040	12.5	3,383,000	.4	424,040	12.5
Ind.	947,000	.1	284,100	30.0	476,172	50.3	3,263,000	.4	1,641,000	50.3
Iowa	500	*	56	11.2	250	50.0	500	*	250	50.0
Kans.	20,289,000	2.7	1,826,000	9.0	9,123,000	45.0	28,348,000	3.7	10,315,000	36.4
Ky.	5,572,000	.8	646,000	11.0	1,879,000	32.0	15,268,000	2.0	4,884,000	32.0
La.	70,267,000	9.2	2,108,000	3.0	5,849,000	8.3	65,987,000	8.7	4,476,000	6.8
Md.							705,000	.1	472,000	67.0
Mich.	700	*	78	11.1	350	50.0	700	*	350	50.0
Mo.	2,600	*	289	11.1	2,028	78.0	4,873,600	.6	3,802,000	78.0
Mont.	486,000	*	24,245	5.0	88,300	18.2	486,000	*	88,300	18.2
N. Y.	6,947,000	.9	1,598,000	23.0	3,379,000	48.6	15,777,000	2.1	7,676,000	48.7
N. Dak.	600	*	67	11.1	300	50.0	600	*	300	50.0
Ohio	51,481,000	6.7	9,267,000	18.0	24,181,000	47.0	116,127,000	15.2	55,062,000	47.4
Okla.	140,631,000	18.4	15,469,000	11.0	33,475,800	23.8	111,681,000	14.6	24,800,000	22.2
Pa.	101,276,000	13.3	20,255,000	20.0	39,835,000	39.3	130,733,000	17.2	50,657,000	38.7
S. Dak.	15,600	*	1,732	11.1	6,400	41.0	15,600	*	6,400	41.0
Tenn.	2,000	*	333	11.1	800	26.7	3,000	*	800	26.7
Texas	47,945,000	6.3	3,835,600	8.0	10,623,000	22.2	60,119,000	7.9	14,165,000	23.6
W.Va.	195,288,000	25.6	19,529,000	10.0	69,464,000	35.6	79,933,000	10.5	18,829,000	23.6
Wyo.	23,427,000	3.1	1,171,000	5.0	3,031,000	12.9	23,427,000	3.1	3,031,000	12.9
	762,546,000	100.0	84,873,000	11.1	221,535,000	29.1	762,546,000	100.0	221,535,000	29.1

*Less than 0.1 per cent. †Figures not available prior to 1922.

NATURAL GAS CONSUMED IN THE UNITED STATES IN 1921 AND 1922

State.	Domestic Number of consumers.	Domestic M cubic feet.	Domestic Value at points of consumption. Total.	Domestic Aver-age (cts.)	Field (drilling, pumping, and gasoline extraction plants.) Number of consumers.	Field M cubic feet.	Field Value at points of consumption. Total.	Field Ave age (cts.)	Carbon black M cubic feet.	Carbon black Value at points of consumption Total.	Carbon black Aver-age (cts.)	Other industrial M cubic feet.	Other industrial Value at points of consumption Total.	Other industrial Aver-age (cts.)	Total industrial M cubic feet.	Total industrial Value at points of consumption Total.	Total industrial Aver-age (cts.)
1921—																	
Ark.	34,794	4,026,000	$1,596,000	39.6	232	391,000	$16,000	4.1	.....	.....	....	6,220,000	$839,000	13.5	6,611,000	$855,000	12.9
Calif.	217,568	11,091,000	8,684,000	78.3	1,528	46,359,000	5,239,000	11.3	.....	.....	....	18,492,000	2,573,000	13.9	64,851,000	7,812,000	12.0
Colo.	10	4,000	1,000	25.0	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Illinois	4,058	208,000	102,000	49.0	105	2,405,000	241,000	10.0	.....	.....	....	17,000	5,000	29.4	2,422,000	246,000	10.2
Indiana	36,183	2,120,000	1,147,000	54.1	396	93,000	22,000	23.9	.....	.....	....	742,000	351,000	47.3	834,000	373,000	44.7
Iowa	4	700	300	42.9	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Kansas	128,830	12,387,000	6,789,000	54.9	391	2,633,000	325,000	12.1	.....	.....	....	11,102,000	2,478,000	22.3	13,735,000	2,803,000	20.3
Kentucky	100,800	8,749,000	3,617,000	41.3	117	1,076,000	244,000	22.7	1,619,000	$61,000	4.0	2,323,000	604,000	26.0	4,918,000	909,000	18.5
Louisiana	23,043	3,417,000	979,000	28.7	713	10,730,000	1,198,000	11.2	32,072,000	883,800	2.8	6,808,000	865,200	12.7	49,610,000	2,947,000	5.9
Maryland	10,795	559,000	382,000	68.3	19	.....	.....	....	.....	.....	....	66,000	36,000	54.5	66,000	36,000	54.5
Michigan	8	400	300	75.0	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Missouri	78,525	4,449,000	3,452,000	77.6	76	.....	.....	....	.....	.....	....	18,000	11,000	61.1	18,000	11,000	61.1
Montana	1,018	138,000	83,100	59.5	3	2,000	300	15.0	182,000	4,000	2.2	14,000	2,900	20.7	198,000	7,200	3.6
New York	169,957	14,851,000	6,377,000	42.9	336	364,000	81,000	22.3	.....	.....	....	326,000	138,000	42.3	690,000	219,000	31.7
N. Dak.	4	1,000	400	40.0	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Ohio	959,240	83,755,000	35,529,000	42.4	3,740	3,610,000	937,000	26.0	.....	.....	....	18,688,000	6,755,000	36.1	22,298,000	7,692,000	34.5
Oklahoma	135,778	17,708,000	6,407,000	36.2	2,695	56,283,000	6,190,000	11.0	432,000	13,000	3.0	26,480,000	3,379,000	12.8	83,195,000	9,582,000	11.5
Oregon	2	200	100	50.0	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Penn.	468,615	53,950,000	23,518,000	43.6	7,864	7,745,000	1,733,000	22.4	15,000	1,200	8.0	38,905,000	12,993,800	33.4	46,665,000	14,728,000	31.6
S. Dak.	42	4,100	2,000	48.8	1	.....	.....	....	.....	.....	....	5,600	2,000	35.7	5,600	2,000	35.7
Tennessee	73	3,600	1,600	44.4	1	6,000	900	15.0	.....	.....	....	1,400	100	7.1	7,400	1,000	13.5
Texas	117,843	10,089,000	5,630,000	56.3	1,509	32,686,000	3,533,000	10.8	.....	.....	....	8,566,000	1,507,000	17.6	41,252,000	5,040,000	12.3
W. Virginia	139,010	19,470,000	5,517,200	28.3	2,244	10,717,000	1,586,800	14.8	15,476,000	1,083,000	7.0	35,846,000	7,095,000	19.8	62,039,000	9,764,800	15.7
Wyoming	5,715	1,355,000	463,000	34.2	69	7,156,000	302,000	4.2	869,000	27,000	3.1	6,228,000	923,000	14.8	14,253,000	1,252,000	8.8
	2,630,915	248,334,000	110,337,000	44.4	20,989	182,305,000	21,649,000	11.9	50,565,000	2,073,000	4.1	180,848,000	40,558,000	22.4	413,718,000	64,280,000	15.5
1922—																	
Arkansas	32,100	4,423,000	$1,637,000	37.0	310	5,343,000	$352,000	6.6	.....	.....	....	8,060,000	$1,317,000	16.3	13,403,000	$1,669,000	12.5
California	428,960	12,802,000	10,056,000	78.6	1,200	47,655,000	3,515,000	7.4	.....	.....	....	24,123,000	4,336,000	17.9	71,778,000	7,841,000	10.9
Colorado	7	4,000	560	14.0	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Illinois	8,900	286,000	140,840	49.2	45	3,067,000	277,000	9.0	.....	.....	....	30,000	6,200	20.7	3,097,000	283,200	9.1
Indiana	39,120	1,767,000	1,075,800	60.9	320	85,000	20,000	23.6	.....	.....	....	1,411,000	545,200	38.6	1,496,000	565,200	37.8
Iowa	3	500	250	50.0	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Kansas	128,580	11,518,000	7,166,000	62.2	200	3,801,000	653,000	17.2	.....	.....	....	13,029,000	2,496,000	19.2	16,830,000	3,149,000	18.7
Kentucky	111,595	9,649,000	3,984,000	41.3	47	535,000	101,000	18.9	2,300,000	$92,000	4.0	2,784,000	707,000	25.4	5,619,000	900,000	16.0
Louisiana	26,070	3,383,000	1,006,000	29.7	726	18,439,000	1,718,000	9.3	38,004,000	780,000	2.0	6,171,000	993,000	16.1	62,694,000	3,470,000	5.5
Maryland	11,045	568,000	399,000	70.2	30	.....	.....	....	.....	.....	....	137,000	73,000	53.3	137,000	73,000	53.3
Michigan	9	700	350	50.0	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Missouri	85,600	4,639,600	3,732,000	80.4	75	.....	.....	....	.....	.....	....	234,000	70,000	29.9	234,000	70,000	29.9
Montana	1,230	148,000	79,600	53.8	5	15,000	2,000	13.3	322,000	6,500	2.0	1,000	200	20.0	338,000	8,700	2.6
New York	174,070	15,115,000	7,422,000	49.1	380	262,000	38,000	14.5	.....	.....	....	400,000	216,000	54.0	662,000	254,000	38.4
N. Dak.	3	600	300	50.0	.....	.....	.....	....	.....	.....	....	.....	.....	....	.....	.....	....
Ohio	984,300	84,176,000	41,966,000	49.9	3,325	3,330,000	936,000	28.5	.....	.....	....	29,071,000	12,160,000	41.8	31,951,000	13,096,000	41.0
Oklahoma	136,600	17,403,000	7,588,000	43.4	2,150	56,208,000	11,768,000	20.9	536,000	21,000	4.0	37,550,000	5,454,000	14.5	94,278,000	17,243,000	18.3
Penn.	534,100	54,984,000	27,066,000	49.2	4,590	4,900,000	1,183,000	24.1	16,000	1,300	8.1	70,833,000	22,407,700	31.6	75,749,000	23,591,000	31.1
S. Dak.	365	10,200	5,100	50.0	1	.....	.....	....	.....	.....	....	5,400	1,300	24.1	5,400	1,300	24.1
Tennessee	3	400	200	50.0	3	.....	.....	....	.....	.....	....	2,600	600	23.1	2,600	600	23.1
Texas	157,530	11,331,000	6,946,000	61.3	1,590	36,283,000	5,003,000	13.8	.....	.....	....	12,500,000	2,216,000	17.7	48,796,000	7,219,000	14.8
W. Virginia	146,430	20,742,000	6,114,000	29.5	2,185	8,867,000	1,497,000	16.9	12,087,000	1,039,700	8.6	38,242,000	10,178,300	26.6	59,196,000	12,715,000	21.5
Wyoming	7,980	1,462,000	547,000	37.4	80	9,515,000	382,000	4.0	380,000	13,000	3.4	12,070,000	2,089,000	17.3	21,965,000	2,484,000	11.3
	3,014,600	254,413,000	126,902,000	49.9	17,260	197,850,000	27,444,000	13.9	53,629,000	1,933,500	3.6	256,654,000	65,255,500	25.4	508,133,000	94,632,000	18.6



Note

This special fillet insures sufficient strength to prevent heads pulling off of Sheffield Super-Steel Pull Rods under the most severe working conditions.

STRENGTH

WHY

1

The fillet under the head absolutely prevents the head from pulling off.

2

Special analysis steel is built into it—a pull rod that will not break.

3

Stocks and production facilities enabling us to take care of any order.

This trade-mark is your assurance of quality.

Modern practice of hooking deeper and larger wells on power pumps necessitates Pull Rods to withstand greater strains than ever before. Highest quality and greatest mechanical superiority must be built into modern Pull Rods to enable them to perform under the most severe strain without breakage and consequent delays and loss of production.

SHEFFIELD SUPER-STEEL PULL RODS are especially designed physically and chemically to meet these exacting requirements. These rods, carrying the special fillet under head and manufactured from our special analysis Pull Rod steel, are your absolute assurance that heads will not pull off and rods will not break.

Supply houses prefer to handle Sheffield Super-Steel Pull Rods—the best rod on the market. Large stocks in our warehouse and flexible manufacturing facilities for large production enable us to promptly handle any order.

Skilled employees in our steel plant have produced continued improvements in steel products for oil field use. Our physical and chemical laboratories are experienced in working out oil field problems.

Specify Sheffield Super-Steel Pull Rods, and solve your Pull Rod problems

Kansas City Bolt & Nut Company

SHEFFIELD STEEL MILLS

Sheffield Station, Kansas City, Mo.

SHEFFIELD
SUPER STEEL
PULL RODS

Figuring Valuation for Rate Making

Engineering Survey Necessary to Provide Facts. Factors in Process Explained to Natural Gas Association Convention

By J. A. Emery
Vice President of Ford, Bacon & Davis, New York City

People connected with public utilities are principally interested in valuation as it affects the rate base used by regulatory bodies in establishing a rate structure.

The object of valuation is to set before courts or rate fixing bodies the necessary facts to guide them in arriving at a "fair value" upon which the rate should show a fair return. The function of engineers in this presentation is to provide the facts, not to determine the "fair value."

First, an inventory of physical property is prepared, either entirely by inspection in the field or from reliable records checked by inspection. Concurrently, the physical property is inspected for condition. This latter inspection for condition has a twofold use, as it provides the data on which to base a reasonable annual allowance for replacements and, secondly, if the present value is to be fixed by depreciated cost, it determines the amount which should be deducted from new cost in arriving at present value. Further, such an inspection for condition makes it possible to determine with fair accuracy whether the amounts included in operating expenses in the past have been sufficient for the proper maintenance of the property.

Inspection for Condition

Inspection for condition reveals the true state of the property much more accurately than any theoretically applied depreciation based on life tables. In the first place, life tables take no account of partial renewals which are going on constantly in the regular maintenance of the property. In the second place, it is hardly probable that life tables which are applicable to one property will be given approximately applicable to another property operating under different conditions. Depreciation rates for each property must be determined from the facts developed by the inspection of that individual property and only in this way can they approximate fairness.

Upon completion of the inventory, which is simply an unpriced list of physical property, and the inspection for condition, it is customary to add to the inventory an allowance for omissions. It is obvious that in inspecting a finished property, much of which is buried, many items will not be discovered and it is for this purpose that it is customary to allow a small percentage in addition to the inventory of items actually counted or measured.

Pricing the Inventory

The next step is pricing the inventory so prepared. There are numerous theories of pricing, of which the ones most used are as follows:

(a) "Book cost" or, as it is sometimes called, "original investment." This is seldom available. The books of the older companies were not set up with any view to use for the establishment of a rate base or rate structure. They seldom present a complete history of even the construction expenditures and almost never show in any complete form the preconstruction expenditures of those for general supervision, consequently it will only be in exceptional cases that the "book cost" represents either the complete "original investment" or any measure of a fair value.

(b) Estimated historical cost. This is an attempt to correct the omissions which are almost always found in book costs by using book costs where available and adding thereto for omitted construction the estimated cost thereof at the prices ruling at the time installed and further adding fair allowances for omitted overhead expenses.

(c) The average of pre-war prices. This is usually a pricing of the inventory on the basis of the average of prices ruling either over a period of five years or 10 years prior to January 1, 1915. It is simply a further attempt to approximate original investment.

(d) The average of prices ruling over a period of three, five or 10 years last past.

(e) The prices now current; in other words, the cost to reproduce new as of a given recent date.

(f) Prices at the estimated level or average of a given period in the future through which the proposed rates are to be in force.

(g) The cost new of a modern plant capable of performing the same service as the existing plant; in other words, the cost to replace rather than the cost to reproduce. In the natural gas industry, this theory does not produce a materially different result from that arrived at by applying the prices now current to the actual inventory of the existing plant.

(h) The marked value of securities.

Varying Theories

It should be noted in passing that theories (a) and (h) above are not engineering determinations but accounting determinations. They are mentioned here simply for the sake of completeness. It also is evident that in theory (g) the cost to replace is not based on the inventory of the existing plant but on an estimate of the modern plant that would be required to perform the same service as the existing plant. This theory would have weight only in instances of antiquated plants for which could be substituted a modern plant of lower first cost or greater efficiency. Where the art has not changed materially during the life of the existing plant, there is nothing to be gained by the study of the problem from the standpoint of this theory of replacement.

The values arrived at under theory (h) are dependent on the earnings and, consequently, cannot be used to determine rates, although they do give indication of the proper rate of return to be allowed.

It is obvious that, to be fair, all prices used for material and labor must take account of local rates, conditions and customs. These differ to some extent with each locality and a careful study should be made in each individual instance in order that the engineering testimony as to cost may be entirely competent.

So far the priced inventory, irrespective of the theory upon which the pricing is done, represents only the bare material and labor cost of the physical plant. It is necessary, in order to arrive at total construction cost, where the actual facts are not available, to add allowances, based on experience on other similar work, for:

Added Allowances

(a) Omissions, incidentals and contingencies; covering such items as cost of purchasing, storekeeping, wastage, pay-roll and other insurance, timekeepers, watchmen, governmental permits and inspection, protection of work, damages during construction due to storms, and numerous other similar items which will vary somewhat as between different pieces of construction. Many of these incidental expenditures are often allowed for in calculating inventory quantities and in making up unit prices.

(b) Preconstruction Cost; representing the expenditures made prior to construction for preliminary plans, surveys, reports and time and expense of promoters.

(c) Organization and Legal Expenses; covering the services of general officers of the company in the general direction of the construction work and of the corporate affairs during the construction period and preparation for the beginning of operation; and also all legal services and expenses in connection with such activities.

(d) Engineering and Superintendence; covering the time and expenses of the engineering force engaged on the work, including consultants, architects and inspectors; and also the general supervision of construction which may or may not be consolidated with the engineering organization.

(e) Interest and Taxes During Construction; being the accruals on these accounts during the period of construction and prior to the beginning of complete operation.

(f) Cost of Financing; covering only the actual normal expenditures of financiers in distributing to investors the securities issued by the company.

Dependent upon the method pursued in the construction of the plant, or the method that would be pursued in reproduction, it is sometimes necessary to add other overhead charges, such as contractors' profits or a percentage to cover piece-meal construction.

The above items are as clearly a part of the construction cost of placing the physical property in existence ready for service as are material and labor and must be added to show the complete direct expenditures of the company for the construction of physical plant. To this cost of physical plant must now be added:

(a) Working Capital, including cash balance necessary for the proper operation of the property, material and supplies on hand, including, in the case of a gas property, the first cost of the necessary gas to fill the system, accounts receivable, etc., and finally

Going Concern Value

(b) Going Concern Value. It may be interesting here to quote an actual example of certain of these percentages which were determined from the recent construction of a natural gas project. The percentages are based on the labor and material cost of the physical property, exclusive of wells or leaseholds. They are as follows:

Engineering, including preliminary report	5.16%
Interest during construction	4.36%
General office administration and supervision prior to operation	4.28%
Taxes, insurance, injuries and damages	.39%
Legal expense, including expense prior to construction	3.14%
Organization, including cost of soliciting customers	3.14%
Cost of placing securities	4.96%
Total general overheads, exclusive of promotion expense and original development expense of gas field	22.77%

It is exceedingly difficult to derive going concern value arithmetically. It is really measured by the difference in the price at which the securities of a proposed enterprise not yet under construction would sell and the price at which the securities of this enterprise would sell after it had demonstrated its usefulness.

Going concern value is really a composite of values derived from two radically different sources; first, from the adjustment of the different elements of

(Continued on Page 80)

INTERSTATE MOVEMENT OF NATURAL GAS INCREASED 29,000,000,000 FEET IN 1922

State in which gas was produced. 1921	State to which gas was transported	M cubic feet
Illinois	Indiana	16,000
Indiana	Kentucky	8,000
Kansas	Missouri	4,264,000
	Oklahoma	588,000
		4,852,000
Louisiana	Arkansas	4,534,000
	Texas	3,396,000
		7,930,000
New York	Pennsylvania	12,000
Ohio	Indiana	1,880,000
	West Virginia	1,276,000
		3,156,000
Oklahoma	Arkansas	1,843,000
	Kansas	15,307,000
	Missouri	199,000
	Texas	6,394,000
		23,743,000
Pennsylvania	Ohio	64,000
	New York	8,970,000
	West Virginia	1,700,000
		10,734,000
Texas	Louisiana	2,953,000
West Virginia	Maryland	624,800
	Kentucky	8,839,000
	Ohio	61,731,000
	Pennsylvania	25,193,000
		96,387,800
		149,791,800

State in which gas was produced. 1922	State to which gas was transported	M cubic feet
Indiana	Kentucky	4,000
Kansas	Missouri	4,327,000
	Oklahoma	425,000
		4,752,000
Louisiana	Arkansas	6,123,000
	Texas	2,169,000
		8,292,000
New York	Pennsylvania	19,000
Ohio	Indiana	2,320,000
	West Virginia	1,234,000
		3,554,000
Oklahoma	Arkansas	2,003,000
	Kansas	12,811,000
	Missouri	544,000
	Texas	14,017,000
		29,375,000
Pennsylvania	New York	8,849,000
	Ohio	71,000
	West Virginia	1,910,000
		10,830,000
Texas	Louisiana	4,012,000
West Virginia	Kentucky	9,392,000
	Maryland	705,000
	Ohio	64,429,000
	Pennsylvania	40,268,000
		118,494,000
		179,332,000

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Butler, Pa.	Shidler, Okla.
Cleveland, Okla.	Tulsa, Okla.
Cushing, Okla.	Washington, Pa.
Emlenton, Pa.	Waynesburg, Pa.
Knox, Pa.	Webb City, Okla.
Mariand, Okla.	Weleetka, Okla.
Morrison, Okla.	Woodsfield, Ohio
Yale, Okla.	

DISTRIBUTORS

Clarion County Machine Co., Knox, Pa.
A. F. Keck & Co., Butler, Pa.
Lloyd Smith Co., Bradford, Pa.
H. B. Mitchell Co., Emlenton, Pa.
New Martinsville Supply Co., New Martinsville, W. Va.
Murray Tool & Supply Co., Tulsa-Cleveland, Okla.

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EAST BUYING MORE IN SOUTHWEST; LESS FROM CALIFORNIA AND MEXICO

By N. O. Fanning

NEW YORK, May 17.—April shipments of crude and refined oil by water to Atlantic Coast ports from all sources totaled 15,930,000 bbls., a daily average of 528,000 bbls., according to figures compiled by The Oil and Gas Journal from records of incoming tankers. In March shipments were 14,585,000 bbls., or a daily average of 470,000 bbls. April shows a gain of 1,345,000 bbls. in the total, and 58,000 bbls. in the daily average, over the figures for March.

The gain in receipts of crude and refined oil at Atlantic ports in April indicate the trend of the oil markets. Eastern refiners and marketers, in order to meet a rapidly growing demand for oil products, have had to increase purchases. This increase could not be provided by means of larger takings from California due to the decline in production in that State, but has been affected by larger purchases of southwestern crude and refined oil.

There was a gain of about 703,000 bbls. in takings of crude and refined oil from Baton Rouge and New Orleans, combined, while receipts from Port Arthur, Sabine and Beaumont, combined increased to the extent of 804,000 bbls. Less oil in the aggregate was taken from Mexico in April than in March.

Shortage of Fuel Oil

There has been a distinct shortage of fuel oil on the Atlantic Seaboard during the last two months, which is believed to have had an influence on shipments of oil. The gain in receipts from Baton Rouge and New Orleans is believed to reflect the purchase and delivery of heavy Smackover crude oil by Eastern refiners, in an effort to provide sufficient quantities of fuel oil. It is known that the Carter Oil Co. temporarily suspended its runs to Baton Rouge to make way for delivery of Smackover crude which was needed in the emergency.

The decline in receipts of oil from California and the failure to bring Mexican production up as much as expected are held responsible for the shortage of fuel oil here. California oil is moving to the Atlantic Seaboard at the rate of more than 4,250,000 bbls. monthly, but this represents a reduction from the January and February shipments, which averaged 5,000,000 bbls. a month.

The movement of oil from Gulf and Pacific ports to the Atlantic Seaboard, which amounted to 406,700 bbls. daily, represents about 20 per cent of the total crude oil production of the country during the month. In other words, the figures account for the disposition of one-fifth of all domestic crude and refined oil marketed and practically represent that much oil taken off the markets, as little oil shipped to the Atlantic Seaboard goes into storage.

Shipments of California oil seem to have reached a fairly settled basis, although they may show a further slight decrease when Pacific Coast consumption reaches its peak this summer. On the other hand, the shipments from Mexico are uncertain due to salt water trouble in the Panuco and southern Mexican fields. A further gain in consumption of oil on the Atlantic Coast, one of the biggest consuming territories in the world, should therefore be followed by a further gain in shipments from the Gulf, and should relieve the latter territory somewhat.

For the time being, the demand for Gulf crude by Atlantic Seaboard refiners and marketers will probably center in heavy oils, suitable for fuel oil. There seems to be plenty of gasoline and other light products on hand on the Atlantic Coast for the time being without any big gain in current rate of shipments.

Receipts From Various Ports

The largest single port supplying Atlantic Coast oil requirements at present is Los Angeles. Closely rivalling Los Angeles is Port Arthur, while Tampico is third. Port Arthur has been showing a gain in recent months, and may forge ahead of Los Angeles when the May figures are compiled.

The following table shows receipts of crude and refined oil at Atlantic ports from all sources, figures based on capacity of arriving tankers (in barrels):

Baton Rouge, New Orleans	1,236,000	533,000	533,000	554,000
Sabine, Port Arthur and Beaumont	4,229,000	3,425,000	3,307,000	3,339,000
Houston, Texas City and Galveston	2,413,000	2,313,000	1,226,000	686,000
Los Angeles and San Francisco	4,323,000	4,255,000	5,111,000	4,938,000
Tampico and Port Lobos	3,498,000	3,769,000	3,153,000	2,468,000
Peru and Trinidad	231,000	290,000	.....	.....
Total	15,930,000	14,585,000	13,330,000	11,985,000
Daily average	528,000	470,000	459,000	386,000

It is impossible to estimate closely the percentage of refined oil included in the foregoing statistics. It is stated that a very large percentage of the California oil shipped to the Atlantic Seaboard consists of fuel oil. The same may be said of the Mexican shipments.

It must be taken into account that Eastern refineries are able to obtain at least 150,000 barrels of crude daily by pipe line from the Mid-Continent and Eastern fields. The amount of Mid-Continent crude now moving must be comparatively small, as Prairie shipments in April were less than 120,000 bbls. daily, including shipments to Middle West refineries.

The Pan American Petroleum & Transport Co., Gulf Refining and The Texas Co. move more refined oil to the Atlantic Seaboard than crude. On the other hand, Standard of New Jersey, New York and Atlantic Refining require crude oil to run in their Atlantic Coast refineries, which have a combined capacity for running about 325,000 bbls. of oil daily.

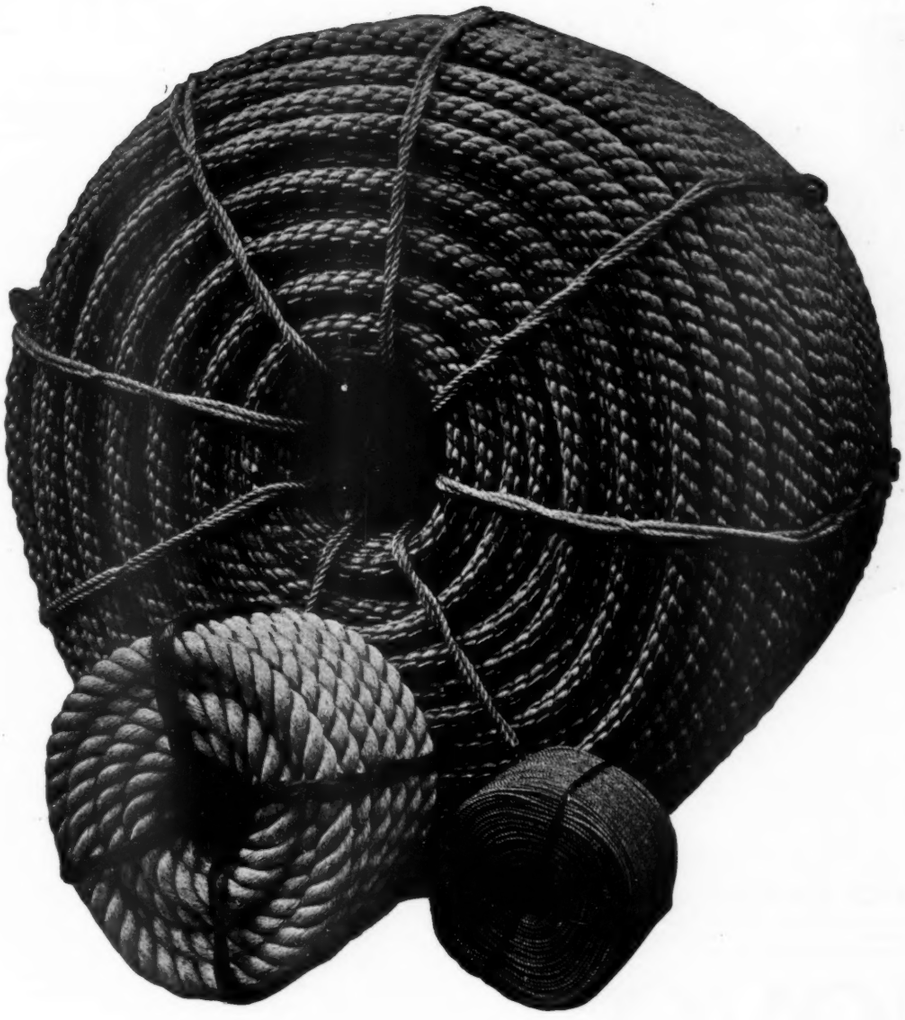
HIGH ALUMINA CEMENT REPORTED PERFECTED

Perfection of a high alumina cement in the United States is reported by the Atlas Aluminate Cement Co. of New York, as a result of the work by Henry S. Spackman, the American inventor of Lumnite cement. A bulletin recites as follows: "The high early strength of Lumnite cement recommends it particularly for the cementing of oil wells. The use of this material would permit work to be resumed in the well within 24 hours after the cement is introduced, saving many valuable days, during which the well must remain idle if Portland cement is used. The greater plasticity of this product lends itself particularly to impregnating sand, gravel and rock seams. Its resistance to the chemical attack of sulphates is another valuable quality where oil wells penetrate sulphate bearing ground. Although it cannot be stated definitely, I believe that the many concrete structures around oil refineries, if made of this high alumina cement, would be much less liable to chemical attack and deterioration than are the present structures."

OPEN ARDMORE OFFICE

ARDMORE, Okla., May 19.—The International Supply Co. of Tulsa has opened offices here, with James Barron in charge. Mr. Barron is well known throughout this section from being secretary of the Ardmore Chamber of Commerce, and later connected with the N. L. Amster interests. The International will establish a store and warehouse in the local areas.

New Bedford Cordage



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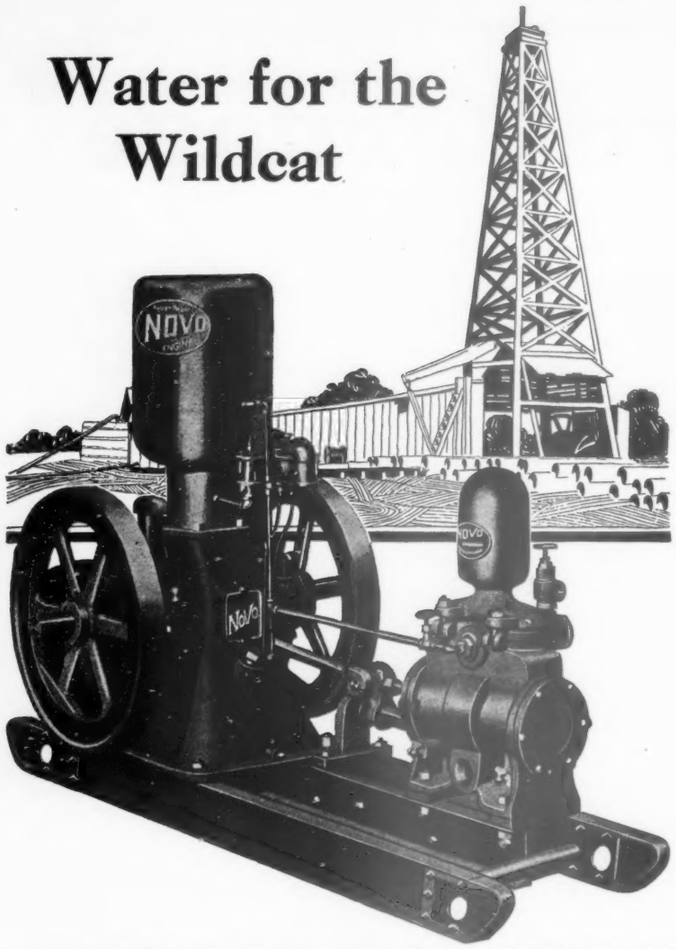

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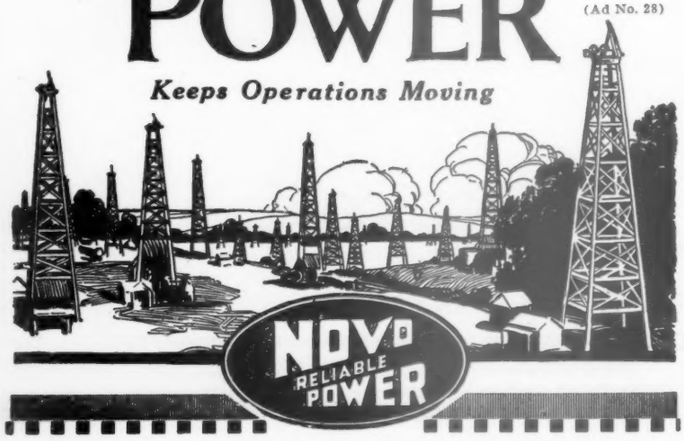

MERCHANDISING NATURAL GAS APPLIANCES

(Continued from Page 68)

local plumbing organizations and individuals with approved, standard gas fitting practice, necessity and reason for same, and the rules of regulatory bodies and the distributing company covering gas service.

Cooperation with plumbers is very desirable, as the plumbers' are then in a better position to be fully familiar with gas service and give satisfactory service to their customers on gas installations, and the distributing company is benefited by improved installations on customer's premises.

The appliance manufacturers, distributors and jobbers are in position to give well organized sales assistance to the distributing company sales department. This assistance is very valuable to the distributing company and the sales department, as it assists in developing the existing field for the sale of gas, the gas company getting the benefit which comes through larger numbers of satisfied customers using a greater quantity of high grade appliances; which is working towards an ideal condition; greater and more diversified use of gas by all customers meaning lower costs to the customer and more efficient operation for the gas company. The appliance manufacturers, distributors and jobbers are entitled to their proper profit on their merchandise, especially when rendering well organized sales assistance.

Public Relations

It is of great importance to the success of the sales department operations that public relations between the distributing company as a whole and its customers be what they should be.

The distributing company as a unit should be properly represented in civic organizations.

Educational good will publicity should be run regularly in local newspapers as well as merchandise sales publicity.

Natural gas service educational literature in pamphlet form should be distributed systematically.

All company telephones having contact with the public should be handled by carefully selected employes, who have a knowledge of all classes of people and who have the ability to speak pleasantly under any circumstances.

There should be a recognized standard of service and courtesy on the part of all employes to all customers.

Great effort should be made to have a reputation of giving instant service to the customers.

Rates in Effect

It is of great importance to the future of a community and the distributing company and to the success of the sales department operations that the distributing company have in effect a rate which insures a complete and satisfactory service every month in the year; this is of vital importance in natural gas territory, as the home life of a natural gas community using gas for heating and cooking is seriously affected when gas service is not complete in extreme cold weather.

Natural gas rates should be so based that the distributing company can guarantee the customer the service he is in need of at the time when he needs it most.

The Doherty rate, known as the three-part rate, properly applied, guarantees every month in the year the service which the customer desires. The more customers study this rate and the longer they use gas under this rate the more satisfied they are with this improved method of charging for gas service. The rate is so based that the customer pays for only such year round service as he is in need of, and is sure of getting that service when he needs it and at just the time he needs it most.

The three-part rate is fair and satisfactory to customers who install additional gas using appliances. These additional appliances render an added or more desirable service and as a rule reduce the yearly average price per thousand paid for gas.

The distributing company has no great difficulty in furnishing splendid year round service under the three-part rate, as it is able to prepare in advance at reasonable cost, for the maximum service desired by all customers during extreme cold weather or similar peak conditions.

The Doherty rate, known as the three-part rate, may be briefly described as consisting of three principal parts or divisions:

(a) Customer charge.
(b) Demand charge.
(c) Gas charge.

Quoting from the Doherty Rate Book:

"(a) The customer charge consists of the expense of bookkeeping, billing, collecting, setting, removing and repairing meters, gratuitous complaint service, office rents, meter reading, and other expenses, and a part of the fixed charges on the physical property. The aggregate of these various customer expenses will be identical for all customers regardless of whether they use gas in small or large amounts or no gas at all. In some systems, for example, it costs one dollar ($1) per month per customer served to conduct the business of the company, whether any gas is actually delivered or not. The customer charges has often been incorrectly referred to as the expense of reading the meter, but this is only one minor item.

"(b) The demand charge consists of that part of company expense incidental to providing and maintaining a production, transmission and distribution system of sufficient capacity to render service as required. The principal elements in this cost are the fixed charges, among which are interest, taxes and depreciation on the necessary plant, and part of the operating and maintenance expense of the physical property. The demand charge is distributed among the customers in proportion to the demand which is contracted for by each customer and hence in the proportion which each customer contributes towards the creating of the total demand expense.

"(c) The gas charge is that part of the cost of producing, transmitting and distributing the gas which is proportional to the amount of gas handled. It represents the cost of the gas plus a certain proportion of the cost of maintaining and operating a transmission and distribution system. In other words, it is the cost of the commodity delivered, as distinguished from the cost of the service."

It is very apparent that a distributing company and the merchandise sale department cannot successfully supply customers with the modern efficient appliance which they are in need of and which will furnish the customer with the convenience he desires unless a rate is in effect that guarantees to the customer year round use of these appliances if he so desires.

FIGURING VALUATION FOR RATE MAKING

(Continued from Page 76)

the physical plant to operate smoothly in unison, and, further, as the organization which has in charge the operation of the above becomes experienced in the peculiarities of the particular tool which has been put in its hands, this organization uses it more economically and to better advantage. No good operating organization ever stands still. It is improving both the tool which it is using and its own methods of using that tool each year that it continues to function.

Must Consider Market

The second source of going value is the proven ability of the enterprise to find a market for its service; in other words, the additional value of a connected load. It is usually claimed that

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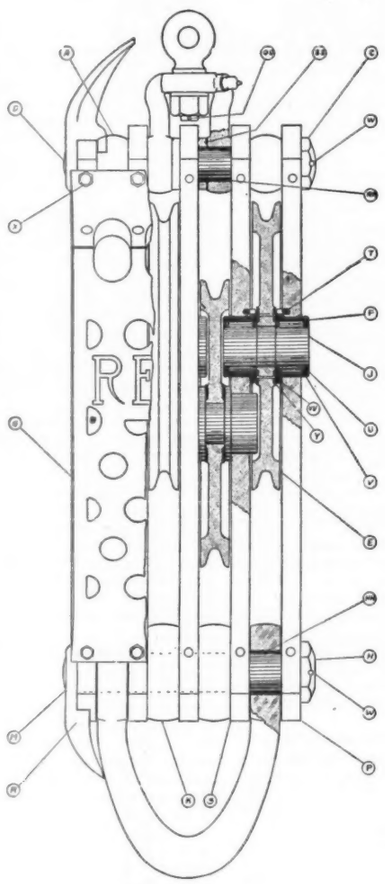

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Q	
R	Outer Strap L. H.
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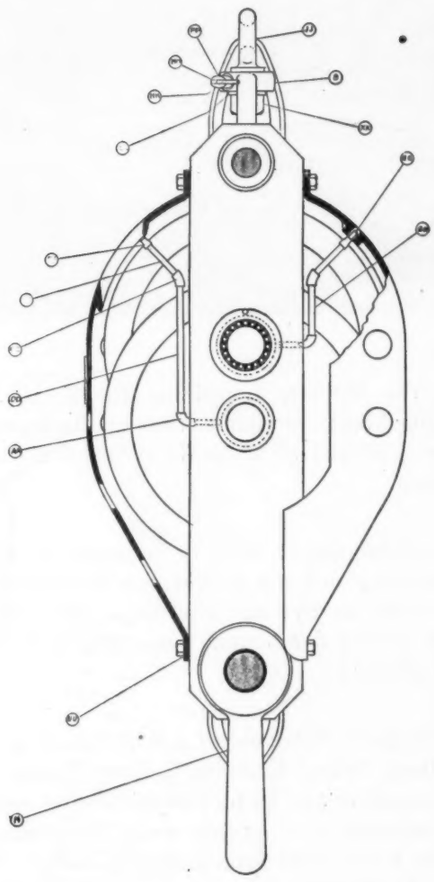

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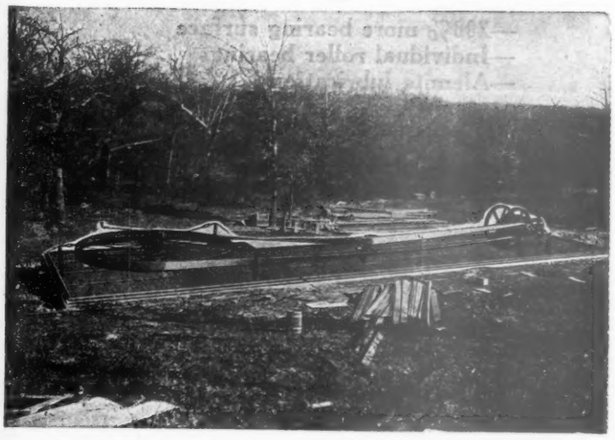
Continuous Oil Field Operation



In the Homer, Louisiana, Field six All Reid Pumping Plants, similar to the one illustrated above, have established an enviable record for continuous operation.

From August 31, 1923, to February 16, 1924, each of these six plants was in operation an average of 4051 hours with an average shutdown time, due to all causes, of only five hours. Less than half of a tower in six months!

Each plant consisted of a Reid Gas Engine and a Reid Band Wheel Pumping Power, 25 and 30 H. P. engines and 16 and 18-foot powers being used. Each plant pumped up to twenty wells, the average being thirteen wells, depths running from 1000 to 1400 feet. About 11,000 feet of rod line was handled by each plant.

If you are interested in hearing further about this or similar installations, write us and we will gladly furnish you additional information.

Joseph Reid Gas Engine Company,
Oil City, Pennsylvania, U. S. A.

BRANCHES AND AGENCIES—Marietta, Ohio; Logan, Ohio; Newark, Ohio; Ft. Recovery, Ohio; Haynesville, La.; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Bradford Supply Co., Robinson, Ill.; Frick & Lindsay Co., Kentucky Distributors; S. R. Shoup, 706 Pacific Electric Bldg., Los Angeles, Cal.; Oklahoma, Kansas, Texas, Arkansas and Wyoming, Frick-Reid Supply Company, Tulsa, Okla., and Branches.

BRANCH SHOP—TULSA, OKLA.

81

a regulated and consequently non-competitive enterprise can have no good-will value, and the element of going concern value should not be confused with the good-will value of an unregulated industry. Perhaps the idea can best be conveyed by defining going concern value as they would apply to a non-regulated industry.

Under the condition of free competition going concern value would seem to be constituted of those elements of plant improvement and organization experience which tended to reduce the cost of the product, while on the other hand good-will value would be the result of those elements of business policy such as liberal business treatment, prompt deliveries, uniform or superior product, etc., which tend to enable the industry to command a higher market price for its product.

Courts and commissions up to date have adopted no uniform policy as to the relative weight in arriving at present "fair value" that should be given to "original investment" and "cost to reproduce."

It is the avowed purpose of regulation that the rates set thereby shall be such as to attract to the business regulated such funds as are necessary for extension and development. To accomplish this end, regulation must proceed with due regard to the fundamental economic laws which control all business, whether regulated or unregulated.

Value is measured in the final analysis by the bargain which would be struck between a willing vendor and a willing purchaser. A willing purchaser considering the acquisition of a dead plant without operating organization or customers would gauge the price which he would pay for such a plant by comparison with the estimated cost to him at current prices of an equivalent new plant, from which cost he would deduct the expense of putting the dead plant in equivalent to new condition. In other words, he would deduct from "cost to produce now" the estimated depreciation.

"Cost New Now"

On the other hand, a willing purchaser considering the acquisition of a running plant operated by an efficient organization and with market for its product would not make any deduction from "cost new now" unless maintenance had been neglected and the plant allowed to run down. In either case, the willing purchaser would be guided by the "cost new now" rather than "original investment."

It follows that if regulation is to provide rates that will encourage development, the rate base for a going property must be established on the current "cost new." Situations exist, of course, where owing to unwise original investment or changed conditions, rates high enough theoretically to produce a fair return would fail to do so in practice. In other words, in such situations the "value of the service rendered" will not produce a fair return on the property. Economic law will not permit the free flow of capital to regulated industries unless both rate base and rate of return are in accordance therewith, and, on the other hand, economic law will prevent the application of rates that are higher than the "value of the service rendered."

A current illustration of this action of economic law can be seen in the anthracite using district of the East. The anthracite industry has for a number of years past been subject to government scrutiny and, to a certain extent, regulation. The price of anthracite has steadily increased until today we see thousands of homes in the East substituting, in domestic heating appliances, oil burners for former anthracite fires; in other words, the price of anthracite has risen to the point where the "cost of the service rendered" as measured by competition of another fuel is rapidly causing a substitution.

For many years it has been customary to require both principal and interest of long-term securities to be payable in gold. Gold has been the standard of value because, prior to our recent war period, it was not subject to violent fluctuations in purchasing power. Consequently the provision in long-term securities that principal and interest should be payable in gold was a guarantee to the investor that he would be repaid his principal and interest in a form which had practically the same purchasing power as did his savings at the time of their investment. It would consequently seem unfair today, with the tremendous decrease in the purchasing power of the dollar, to demand that an investment made in pre-war dollars should today be reimbursed as to principal and interest in dollars, the purchasing power of which is only 65 per cent of that possessed by the dollars originally invested, and this is exactly what occurs when "original investment" is the basis on which a property is valued and a rate is fixed.

Almost all of the rate findings in the past have been based on the so-called depreciated value of the property regulated. The habit of using depreciated value as an element in rate regulation undoubtedly originated in the natural interpretation of physical value by itself without respect to inseparable and concomitant business development where such exists. The true and essential meaning of good will or business development was not appreciated in the earlier examinations into values for rate making, so that between these two lapses of reasoning the accumulation of depreciation of parts which always takes in a large complicated property between the time when it is new and the time when it reaches a state of normal replacement and maintenance, was left without chance of recovery. In the case of a public utility, it is generally impracticable and contrary to public interest to collect the amount of such accumulation through rates in force in the early years, while the business is developing. If it be so collected in the early years and applied towards retirement of investment, then the consumers in the later years when the density of business is greater would enjoy lower rates than the consumers in the earlier years when the density of business is less and the enterprise is struggling to develop.

Figuring Depreciation

It is a basic principle of business (assuming prudent investment and operation and adequate maintenance) that an owner is entitled to a fair return on the value of property devoted to the business (which return must of necessity be proportional to the risk involved) and to the restoration upon the cessation of use of his property, of the value thereof.

In considering the question of depreciation, its purpose, amount and deductibility from value, confusion has resulted from failure to differentiate:

First, between the different conditions under which properties are operated, and,

Second, the different purposes for which depreciation is set up.

In general, two classes of properties may be broadly distinguished:

(a) Those which are expected to continue to render service for a practically unlimited period.

(b) Those in which the period of service is limited by the exhaustion of the commodity handled, as, for example, a railroad built for the purpose of recovering lumber or mineral, or a pipe line built for the purpose of transporting oil or natural gas.

In the case of both classes of property, it is desirable to set aside year by year or month by month an amount sufficient to equalize the renewals and replacements necessary to be made to keep the property in operating condition. This provision should properly be termed "depreciation" and its amount should be determined by good business judgment based on past experience. It will be determined in the case of individual units making up the property as a whole, by either deterioration in the case of parts

COMPLETE
OIL FIELD EQUIPMENT AND SUPPLIES

Rotary or Cable

Ask the nearest Republic Store. They are distributed throughout the Mid-Continent and Coastal fields at strategic points, TO RENDER PROMPT ATTENTION TO ALL FIELD REQUIREMENTS. Only equipment that has built a reputation for service is handled.

For Instance:

Republic Iron & Steel Co.'s Tubing, Casing, Drive and Line Pipe.

Standard Seamless Tube Co.'s Seamless Upset Rotary Drill Pipe.

American Well & Prospecting Co.'s "Gumbo Buster" Rotary Equipment.

American Steel & Wire Co.'s and Broderick & Bascom's Wire Rope.

The Hughes Tool Co.'s Hughes Rock Bits, Hughes Disc Bits, and Hughes Special Milling Cutters.

Bovaird & Seyfang, and McNamar Oil Field Boilers.

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Tonkawa, Okla.
Henryetta, Okla.
Yale, Okla.
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REPUBLIC SUPPLY CO.

REED ROLLER BIT COMPANY "The Bit with the Bite"

Leaves no junk in the hole

THE "IDEAL" ROTARY IN AUSTRALIA

In view of the interest attaching to recent developments in the oil industry in Australia and the discovery of oil at Oralla, it is worthy of note that the equipment with which the Lander Oil Company are operating consists of a complete 27½-in. "Ideal" rotary outfit. This outfit, together with the tools and equipment, was supplied by the National Supply Corporation, and is of the type almost exclusively used in California and other American fields, and is finding increasing favour on the European and Eastern oilfields.—Petroleum Times.

—and, of course Reed Roller Bits

were included in this foreign shipment

The same recognition of superior performance in the field that has favored Reed Bits in the rotary fields of America, has found its way into foreign countries.

All shipments of Reed Bits have been sold to run with slush lubrication, which not only assures economy in operation but means safer, faster drilling when up against difficult rock formations.

Our booklet on "Slush Lubrication" sent on request.

Reed Service Means NOW

Reed Roller Bit Co.

Houston, Texas, U.S.A.

CALIFORNIA OFFICE: 1341 Santa Fe Avenue, Los Angeles. Phone 882-785. Ask for Mr. E. B. Wiggins

on which wear is rapid or supersession in the case of parts in which the advance of the art is rapid. Whichever of these two, deterioration or supersession, is likely to occasion the replacement of a unit in the less time is the one which will fix the annual amount which should be set aside to meet replacement when it falls due, in order to equalize year by year the operating costs.

Accruals for Depreciation

Viewed from this standpoint, accruals for depreciation are simply advance provisions in operating expenses for eventual heavy replacements and have the effect of equalizing the cost of production. These replacements could, of course, be met by carrying a sufficient surplus and providing for their cost from time to time by appropriations from surplus. This method, however, would not equalize from year to year the cost of production. Annual accruals for the purpose of meeting requirements are proper in that they charge, through rates based on their inclusion in expense, the burden for replacements of plant against the current users of the service rendered by the plant.

These accruals are of the same nature as insurance premiums and are no more to be considered as a reduction in plant value or a partial repayment to the owner of plant value than are annual fire insurance charges. In fact, it would be fair to view the balances in such so-called depreciation accounts as constituting an essential part of the working capital of the business.

If depreciation accruals are not currently distributed to owners (and they never are so distributed), there can be no just claim for their deduction from value in arriving at a rate base.

In the case of the second-class property, the period of service of which is limited by the exhaustion of the commodity handled, it is necessary in the first place to set up annual accruals to depreciation for replacements as defined above, in order that the property to the end of its life shall be capable of performing normal service. In addition, in the case of those properties having a limited term of usefulness, it is, in accordance with the fundamental business principles mentioned before, necessary to accumulate a fund for the retirement of the property at the termination of its usefulness on account of exhaustion of the commodity handled or the termination of the right to do business. The latter charge is in addition to the depreciation set up to take care of replacements, and, for the purpose of a distinctive term, will be called "amortization."

Bases of Amortization

It is possible to set up amortization on either of two bases:

First, on the so-called sinking fund basis on the theory that the annual amount set aside for amortization will be invested at banking interest and together with the accruals of this interest equal, at the termination of serviceability of the property, the value of the property as set at any given time at which a rate determination is made; or,

Second, the annual amounts accrued to amortization can be suitably invested and the earnings resulting from such investment added to the earnings of the property from its charges for service in arriving at the rate of return resulting from the charges fixed for service.

Depreciation, in as much as it is simply an equalization of expenditures for replacements, in any event should be based on current prices. Amortization, however, if based on current reproduction cost rather than original investment, will, on a declining market, eventually produce a fund for reimbursement of investors less than their original investment. For example, a property built at the peak prices existing in the middle of 1920 if amortized today on the basis of cost to reproduce would not return the original investment in dollars, but only the original investment in purchasing power of money.

Question of Policy

It would further appear that the question as to whether "original investment" or "present fair value" is to be the measure of the amortization feature of expense included in the rate for properties whose term of usefulness is limited, depends on whether the policy adopted is to repay an investor the equivalent of his original investment in purchasing power or in pounds of gold the purchasing power of which has changed. If the latter policy is to be adopted, the natural result will be a demand for higher rates of return to compensate for this additional risk.

Amortization reserves cannot be invested in extensions to a property whose period of usefulness is limited and for the purpose of retiring which they are accrued, but must be invested in either some other sound security or at banking rates of interest.

Defined and accrued as above, neither depreciation nor amortization reserves are distributable to the owners of a property excepting as reimbursement for the value of the property at the termination of its use, and consequently any use of a depreciated value as an element in determining a fair rate to be charged for service will result in a constantly decreasing rate of return on the value of property which is tied up in rendering the service. The usual simple arithmetical demonstration of a 10-year life and 10 per cent return illustrates this perfectly. The average return resulting therefrom is about 5.5 per cent on the value of property instead of the 10 per cent assumed.

If this discussion is sound, it would appear that the rate base which accords with economic law is the undepreciated fair values and their fair value must take full account of present cost to reproduce. A number of recent decisions of courts and commissions are apparently leaning toward this view.

FROM NATURAL GAS TO MANUFACTURED GAS

(Continued from Page 64)

Utilities Commission of Ohio fixing a rate of $1 per thousand for the first 5,000 feet, $1.05 per thousand for the next 5,000 feet, $1.10 for the next 5,000 feet, and $1.15 per 1,000 for all gas used in excess of 15,000 feet and a monthly minimum charge of $1.25 per month. These rates became effective February 1, 1922.

We do not believe that there is any logic for establishing a rate between 50 cents and $1. We are unable to determine any compromise between those two figures. Certainly as much gas will be consumed at $1 per 1,000 as at 50 cents, at least that is our experience. All of us admit that 50 cents per 1,000 feet is an unfair rate on the basis of heat value. Manufactured gas, an inferior gas, as far as thermo value is concerned, averaged $1.15 per thousand in 1922. If this gas, with but an average of 550 B. t. u. is worth $1.15, no one can dispute the logic that natural gas of twice the heating value is worth twice the price.

During the past winter, when we experienced the coldest weather felt for 12 years and practically all cities in this State were having natural gas shortages, our patrons were privileged to enjoy an uninterrupted and entirely satisfactory service, due to the facilities employed at our plant which enabled us to furnish a mixed product.

Educating Customers

From experience we find consumers who have had the privilege of using gas at 1,000 B. t. u. value, have acquired the habit of being wasteful, in spite of the efforts made to teach conservation. When a gas of a lower B. t. u. is supplied to them, they continue the old wasteful methods, resulting in high gas bills. It is sometimes difficult to convince the consumer that he will be obliged to be more economical in the use of mixed gas than he was in the use of natural

STEEL SUPERIOR DERRICK

One of the Distinctive Features of Superior Steel Derricks

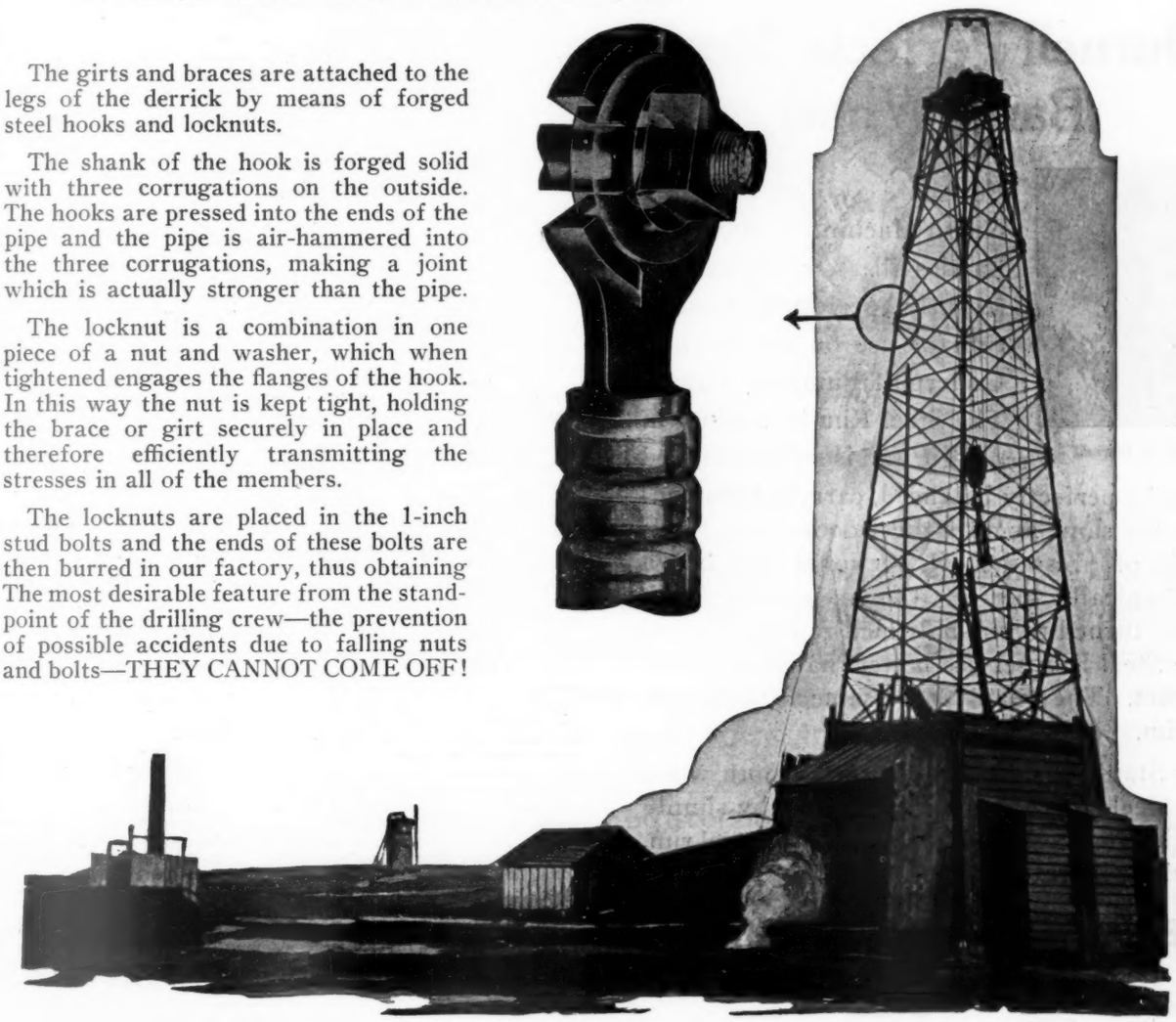
Brace and Girt Connections

The girts and braces are attached to the legs of the derrick by means of forged steel hooks and locknuts.

The shank of the hook is forged solid with three corrugations on the outside. The hooks are pressed into the ends of the pipe and the pipe is air-hammered into the three corrugations, making a joint which is actually stronger than the pipe.

The locknut is a combination in one piece of a nut and washer, which when tightened engages the flanges of the hook. In this way the nut is kept tight, holding the brace or girt securely in place and therefore efficiently transmitting the stresses in all of the members.

The locknuts are placed in the 1-inch stud bolts and the ends of these bolts are then burred in our factory, thus obtaining The most desirable feature from the standpoint of the drilling crew—the prevention of possible accidents due to falling nuts and bolts—THEY CANNOT COME OFF!



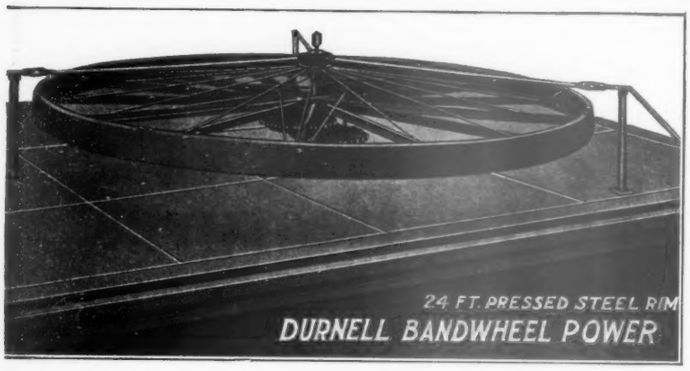
Ask the driller who has used one

SUPERIOR TUBE COMPANY

STEEL DERRICKS—CASING—TUBING—LINE PIPE

Kansas City, Mo.

Pittsburgh Tulsa St. Louis Dallas Casper



Durnell Perfects Steel Band-Wheel

H. G. Durnell

For those who prefer it, the Union Machine Company of Bartlesville, Oklahoma, has recently perfected a steel rim for use on the Durnell Underpull Pumping Power. The Steel Rim is original in design, and is so constructed as to be perfectly balanced, carrying momentum the same as does the wooden rim. It is made of pressed steel, sectional and has a mechanically perfect crown surface with edges turned to one-half inch radius. It will give Steel Rim service better than any on the market. The weight is the same as the wooden rim.

Our Standards are not changed. Both wood- and steel rims are interchangeable, by simply putting on spoke end castings for the steel rim. Send for literature.

INTERNATIONAL SUPPLY COMPANY, Agents

STOCKS AT

OKLAHOMA		KANSAS	WYOMING
Okemah	Jennings	El Dorado	Casper
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Holdenville	Hominy		MONTANA
Wetumka	Stroud		Sunburst
Drumright			

Manufactured by

Union Machine Co.

Bartlesville, Okla.

gas of a higher B. t. u. value. By taking all these things into consideration, the company will avoid a great amount of trouble in making the charge.

The type of plant to be installed to handle the manufacturing of blue gas should be determined by a capable engineer. In our community we prefer either the blue gas or carburetted water gas plant, on account of their flexibility of operations. Either type can be put into operation and brought up to capacity within a few hours. "Blue gas" is produced from the reaction of steam brought into intimate contact with incandescent carbon. The most common practice of production is the use of a good grade of coke as a source of carbon, which is charged into a cylindrical steel shell, the metal of which is protected from the intense heat by fire brick lining. The fuel, after being ignited, is raised to an incandescent state by mechanical blowers. When the fuel bed has reached the proper temperatures, steam is driven through the bed, entering at the base, coming in contact with an excess amount of hot carbon which converts it to carbon monoxide and free hydrogen, the resulting gas having a thermo value of about 300 B. t. u. per cubic foot and a flame temperature of about 3,000.

This gas is then sent through purifying apparatus to extract the sulphur compounds, which are practically the only impurities present. After leaving the purifiers, the gas can be measured and sent directly into the storage holder for distribution.

This suggested method for prolonging the life of the natural gas business may seem impossible, financially, from the smaller companies' viewpoint, and in some instances may not be encouraged by the producers. However, the producer and the smaller companies can work jointly in carrying out this operation.

Value to Producers

For example, take a producer that supplies several small companies; assume that these companies are unable financially, to install these protective measures. The producing company could select some logical location, install a manufacturing plant and utilize the available natural gas production to furnish those small companies with a mixed gas. This operation could be continued for some time, thus insuring those several communities an adequate gas supply.

As the natural supply dwindled, of course the percentage of the supplemented product could be increased. The producer is in a position to determine the output of his field and as his supply decreases to such an extent that it is deemed advisable to abandon the natural gas, sufficient units could be added to his manufacturing plant and 100 per cent manufactured gas could be supplied and those communities could still enjoy an uninterrupted gas supply for ages to come.

Certainly a uniform demand for gas would be encouraged by the producer. After a well has started to produce it can meet any demand made upon it, within its productive limits. However, when a well is drawn on to its full capacity and even urged to deliver more of its life's blood than it contains, we readily recognize that its existence will be short.

The supply of a mixed gas would have a tendency to unify the demand on the wells and afford the producer an opportunity to know just what quantities he would be called on to deliver. Certainly a uniform demand would prolong the life of the wells.

This product has always sold far below its true worth. One of the chief reasons we are obliged to discuss at this time, measures that might be adopted to prolong its life, is in part caused by the ridiculously low selling price of this product, which brought waste in its use.

In 1922 the price per thousand received for—

Coal Gas averaged	$1.24
Water Gas averaged	1.15
Oil Gas averaged	1.06
Natural Gas averaged (dom.)	.490

The price per thousand for the manufactured product averaged $1.15, with an average thermo value of 550 B. t. u.

Let us take for example, manufactured gas at an average sale of 30,000 feet per meter, at an average price of $1.15 per thousand, giving a revenue of $34.50 per meter per year. Assuming the heating value of this gas to be 550 B. t. u., the manufacturing company delivers 16,500,000 heat units to the customer for which the company receives a revenue of approximately $2.10 per million B. t. u. delivered.

A sale of 1,000 B. t. u. natural gas, at 30,000 feet per meter per year at the average rate shown, would give a revenue of $14.97 per meter. The natural gas company delivers 30,000,000 heat units for which it receives a revenue of but 50 cents per million B. t. u. supplied, the manufacturing company receiving four times as much for its product on the basis of heat value, while the natural gas company supplies nearly twice as many heat units and yet receives $1.60 less per million B. t. u. than the manufactured company.

The low price of natural gas has done more than any other one thing to create waste of this wonderful fuel.

ADMITTED TO OKLAHOMA

OKLAHOMA CITY, Okla., May 17.—A domestication permit has been obtained in Oklahoma by the new Pierce Petroleum Corp. of Delaware. T. N. Asbury of the Pierce Oil Corp., Oklahoma City, is named service agent. Other corporations recently admitted were the Jersey Oil Corp., of Delaware, capital in State, $10,000, and the Mountain Drilling Co., of Delaware, capital in State, $26,000.

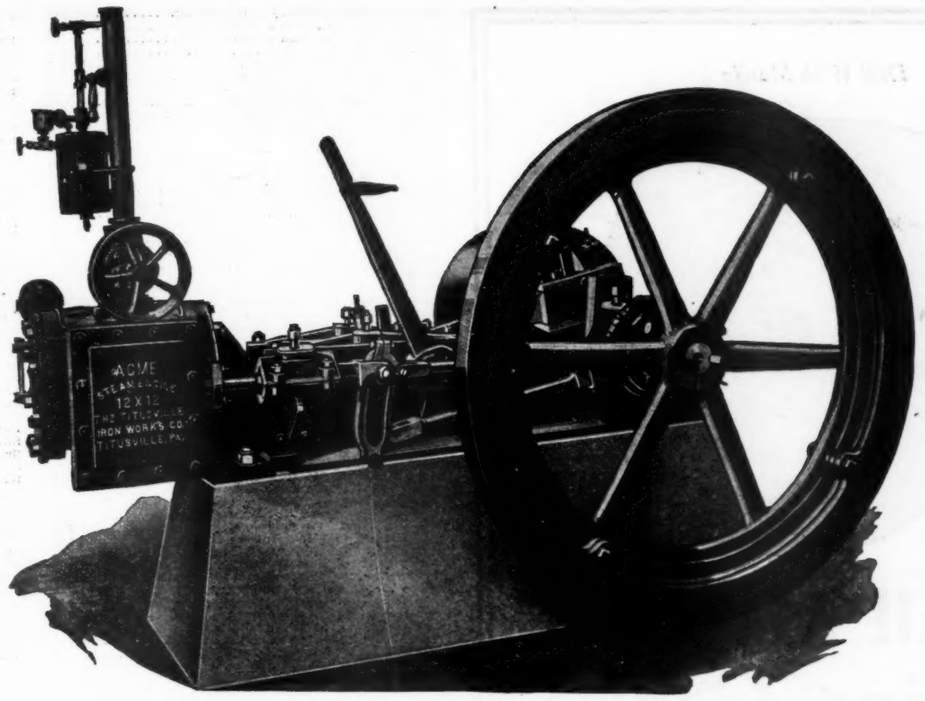
NEW HOUSE ORGAN

Among the most recent house organs of interest to the oil fraternity is the Bridgeport Driller, published monthly by the Bridgeport Machine Co., Wichita, Kans. The initial issue contains much interesting information and a goodly portion of lighter writing.

563 REFINERIES IN UNITED STATES

(Continued from Page 62)

Baney Ref. Co., Brownwood	500	Skm.	S. D.	
Bear Ref. Co., Burkburnett	1,200	Skm.	S. D.	
Blue Ribbon Ref., Inc., Brownwood	500	Lub.	S. D.	
Boarderman Oil & Ref. Co., Wichita Falls	750	Skm.	S. D.	
Boner, H. E., Burkburnett	500	Skm.	S. D.	
Brazos Gasoline Co. Bazos	600	Skm.	S. D.	
Buffalo Ref. Co., Sherman	500	Skm.	Op.	
Burk-Texas Ref. Co., Burkburnett	2,500	Skm.	S. D.	
Cisco Ref. Co., Cisco	1,000	Skm.	S. D.	
Clayton Oil & Ref. Co., Dallas	4,500	S. & L.	Op.	Cross
Corsicana Oil & Ref. Co., Corsicana	400	Lub.	S. D.	
Crescent Oil Products Co., Denton	400	Skm.	S. D.	
Cross Ref. Co., Corsicana	2,000	Skm.	Op.	
Crown Oil & Ref. Co., Pasadena	3,000	Lub.	S. D.	
Crystal Pet. Co., Burkburnett	1,000	Skm.	S. D.	
Dalford Oil & Ref. Co., Fort Worth	5,000	Skm.	S. D.	
Deepwater Oil Ref. Co., Houston	2,000	S. & L.	Op.	
De Leon Pipe Line & Ref. Co., De Leon	1,000	Skm.	Op.	
Denison Ref. Co., Denison	1,000	Skm.	S. D.	
Elliott Jones & Co., San Antonio	1,000	Skm.	S. D.	
Eastland Oil & Ref. Co., Cisco	750	Skm.	Op.	
Four States Ref. Co., Texarkana	10,000	S. & A.	Op.	
Freeport Asphalt Co., Bryanmound	10,000	S. & A.	Op.	Burton
Galena-Signal Oil Co. of Texas, Houston	1,000	Skm.	S. D.	



Type "B" The New Improved Titusville Acme Steam Drilling Engine

is distinctive for its tremendous power reserve, flexibility and ease of operation.

The Water Pump is made with insert brass barrel, making it possible to use cups instead of plunger, has semi-steel jacket around the insert, extra heavy and wide bed that makes for smooth running, dust covers on the oil reservoirs, forged steel crank shaft ground accurately to size and tapped for attaching measuring lines, equipped for either regular two quart lubricator or Force Feed Lubrication. Fly wheel provided with three balance rims. Hand forged Connecting Rod.

TITUSVILLE OIL COUNTRY MACHINERY
BUILT WITH RESERVE RUGGEDNESS

Manufactured by

The Titusville Iron Works Company

Titusville, Penna.

AFFILIATED COMPANIES FOR DISTRIBUTION:

THE CONTINENTAL SUPPLY COMPANY
For Eastern, Mid-Continent, Coastal and Western Fields
THE CONTINENTAL WELL SUPPLY COMPANY
For Export—2 Rector St., New York City

THE REPUBLIC SUPPLY COMPANY OF CALIFORNIA
For California Fields

Drill With Manila

Wall Manila Drilling Cables

Pure Manila Bull Ropes

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The Bovaird Supply Company—Oklahoma and Kansas
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Colonial Supply Company—Oklahoma

The Drillers Supply Company—Kansas

Hinderliter Tool Company—Oklahoma

Murray Tool & Supply Company—Oklahoma

New Martinsville Supply Company—New Martinsville, W. Va.

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Tennant Supply Company—Oklahoma

Wagner Supply Company—Texas

Western Supply Company—Oklahoma

Williamsport Wire Rope Company—Oklahoma, Kansas, Arkansas and Wyoming

Decker Tool & Supply Company—Texas

EST. 1830 WALL CABLE TRADE MARK

Worthy of Trust

Gorman-Home Refinery Co., Gorman	1,000	Skm.	S. D.	
Graham Ref. Co., South Bend	2,500	Skm.	Op.	Dubbs-Fleming
Grayburg Oil Co., San Antonio	2,500	Skm.	Op.	
Griswold Oil Corp., Electra	7,000	Skm.	Op.	
Gulf Ref. Co., Fort Arthur	100,000	Comp.	Op.	Gulf
Haggaman Ref. Corp., Tiffin	2,000	Skm.	Op.	
Hogg Creek Ref. Co., Stephenville	1,000	Skm.	S. D.	
Home Refinery, Breckinridge	500	Skm.	Op.	
Humble Oil & Ref. Co., Baytown	20,000	S. & L.	Op.	Humble
Humble Oil & Ref. Co., Burkburnett	1,800	Skm.	Op.	Humble
Humble Oil & Ref. Co., Hearne	7,500	Skm.	Op.	
Humble Oil & Ref. Co., San Antonio	2,000	Skm.	S. D.	
Houston Terminal Ref. Co., Houston	3,500	Lub.	Op.	Fleming
Interstate Gasoline Co., Iowa Park	2,000	Skm.	S. D.	
Interstate Refineries, Inc., Ranger	2,000	Skm.	S. D.	
Invincible Oil Corp., Fort Worth	5,000	Skm.	S. D.	
Jones Elliott & Co., San Antonio	4,000	S. & L.	Op.	Holmes-Manley
Keystone Ranger Ref. Co., Wichita Falls	2,500	Skm.	S. D.	
Langley Ref. Co., Burkburnett	1,500	Skm.	S. D.	
La Porte Oil & Ref. Co., La Porte	1,000	Lub.	Op.	
Lewis Oil Corp., Comanche	1,000	Skm.	S. D.	
Lewis Oil Corp., Burkburnett	1,200	Skm.	S. D.	
Lone Star Oil & Ref. Co., Wichita Falls	4,000	Skm.	S. D.	
Magnolia Pet. Co., Beaumont	40,000	Comp.	Op.	Burton
Magnolia Pet. Co., Luling	5,000	Skm.	Op.	
Magnolia Pet. Co., Fort Worth	10,000	Skm.	Op.	
Magnolia Pet. Co., Magpetco	5,000	Skm.	S. D.	
Magnolia Pet. Co., Corsicana	3,000	Skm.	Op.	
Megargel Ref. Co., Megargel	1,000	Skm.	Op.	
Mexia Oil & Ref. Co., Mexia	600	Skm.	Op.	
Miller Pet. Co., Wichita Falls	3,000	Skm.	Op.	Cross
Misko Refineries, Inc., Laredo	1,500	Lub.	Op.	
Mutual Pipe Line Co., Luling	2,500	Skm.	Op.	
Noble, Chas. F., Oil & Gas Co., Burkburnett	5,000	Skm.	Op.	
Oriental Oil Co., Dallas	3,000	Skm.	Op.	
Orient Pet. Co., Wichita Falls	1,500	Skm.	S. D.	
Owens Oil & Ref. Co., Sweetwater	1,500	Skm.	Op.	
Owens Ref. Co., Minerva	1,500	Skm.	Op.	
Owenwood Oil Co., Burkburnett	2,000	Skm.	S. D.	
Panhandle Ref. Co., Wichita Falls	6,000	Skm.	Op.	Dubbs
Paris Ref. Co., Paris	500	Skm.	Op.	
Pa-Tex Pet. Co., La Porte	350	Lub.	S. D.	
Patterson Oil Co., Brownwood	1,000	Skm.	Op.	
Petroleum Corp., Electra	1,500	Skm.	S. D.	
Pierce Oil Corp., Fort Worth	8,000	Skm.	S. D.	
Pierce Oil Corp., Texas City	6,000	Comp.	Op.	
Pioneer Oil & Ref. Co., Somerset	1,500	Skm.	Op.	
Port Houston Oil & Ref. Co., Pasadena	300	Skm.	S. D.	
Prairie Ref. Co., Grand Prairie	250	Skm.	S. D.	
Primrose Ref. Co., Wichita Falls	2,000	Skm.	Op.	
Producers Ref. Co., Gainesville	6,000	Skm.	Op.	
Pure Oil Co. (Humphreys), Smith's Bluff	15,000	Skm.	Op.	Cross
Ranger Wichita Oil & Ref. Co., Wichita Falls	5,000	Skm.	S. D.	
Rio Grande Oil Co., El Paso	2,000	Skm.	Op.	
Royal Blue Ref. Co., Graham	500	Skm.	S. D.	
Seaboard Oil & Ref. Co., Orange	350	Lub.	S. D.	
Sinclair Ref. Co., Houston	16,000	S. & L.	Op.	Isom
Skelly Oil Co., Burkburnett	2,000	Skm.	S. D.	
South Bosque Ref. Co., South Bosque	1,000	Skm.	S. D.	
Southern Ref. Co., Somerset	1,000	Skm.	Op.	Fleming
Southwestern Ref. Co., Sour Lake	1,000	S. & L.	Op.	
Star Ref. Co., Fort Worth	2,000	Skm.	Op.	Fleming
State Ref. Co., Dallas	1,500	Skm.	S. D.	
Sunshine State Oil & Ref. Co., Wichita Falls	2,500	Skm.	Op.	
Swastika Ref. Co., Swastika	1,000	Skm.	S. D.	
Terminal Oil & Ref. Co., Texas City	10,000	Skm.	Op.	Fleming
Texas Best Oil & Ref. Co., Santa Anna	500	Skm.	S. D.	
Texas Co., The, Dallas	15,000	Comp.	Op.	
Texas Co., The, Port Arthur	45,000	Comp.	Op.	HolmesManley
Texas Co., The, Port Neches	20,000	Asph.	Op.	
Texas Oil Products Co., Waxahachie	3,000	Skm.	S. D.	Ferro
Texoil Ref. Co., Burkburnett	1,500	Skm.	S. D.	
Texhoma Oil & Ref. Co., Wichita Falls	7,000	Skm.	Op.	Dubbs
Texas Mexico Oil & Ref. Co., Laredo	1,000	S. & L.	S. D.	
Thrall Oil Ref. Co., Thrall	300	Skm.	S. D.	
Tidal Western Oil Corp., Burkburnett	2,500	Skm.	Op.	
Transatlantic Pet. Co., Houston	1,000	Lub.	Op.	
Transcontinental Ref. Co., Fort Worth	5,000	Comp.	Op.	Slagter
Travis Ref. Co., Burkburnett	1,000	Skm.	Op.	
*Trinity Ref. Co., Dallas	3,000	Skm.	Op.	
Uniform Gas & Pet Co., Burkburnett	4,000	Skm.	S. D.	
Victor Ref. Co., Burkburnett	1,500	Skm.	S. D.	
Virginia Ref. Co., Dublin	3,000	Skm.	S. D.	
Waco Ref. & Pipe Line Co., Waco	500	Skm.	S. D.	
Waggoner Ref. Co., Electra	3,000	Skm.	Op.	
Western Motors Oil Supply Co., Abilene	1,500	Skm.	Op.	
White Eagle Oil & Ref. Co., Fort Worth	4,000	Skm.	Op.	Holmes-Manley
World Ref. Co., Bridgeport	800	Skm.	S. D.	
Yuba Ref. Co., Nacogdoches	150	Lub.-Grease	Op.	
Total	545,300			

*Leased by Magnolia Pet Co

UTAH

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Utah Ref. Co., Salt Lake City	6,000	Comp.	Op.	Burton

VIRGINIA

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Texas Co., The, Norfolk	5,000	Asph.	Op.	

WEST VIRGINIA

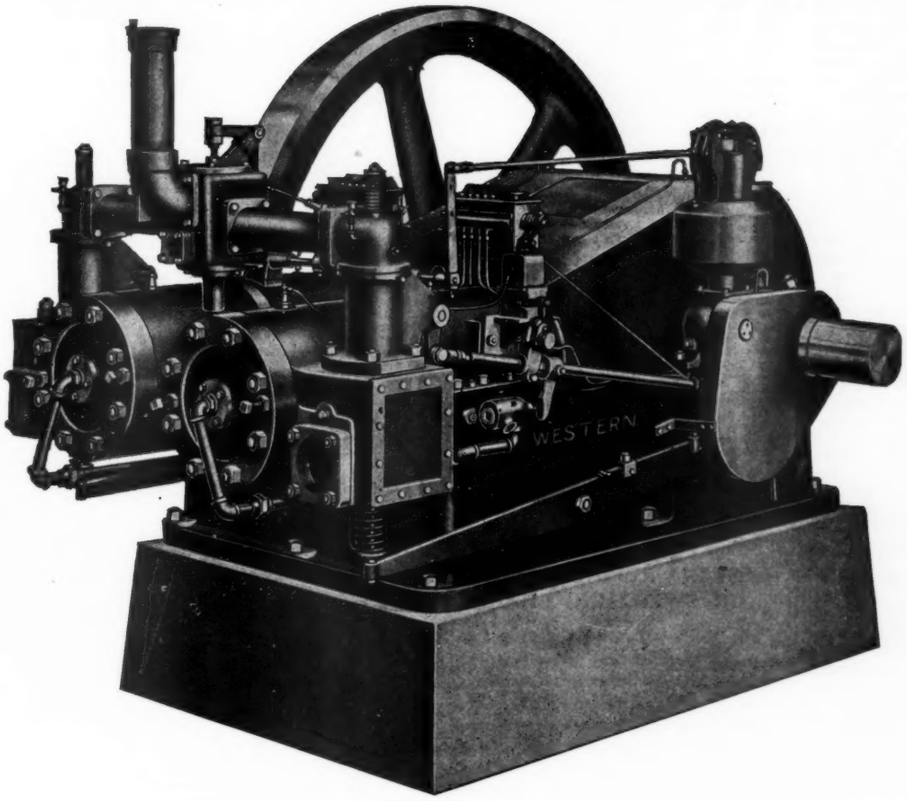
Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Elk Ref. Co., Falling Rock	1,250	S. & L.	Op.	
Ohio Valley Ref. Co., St. Marys	1,000	Comp.	Op.	Snodgrass
Pure Oil Co., Cabin Creek	3,500	Wax	Op.	
Standard Oil Co. (N. J.), Parkersburg	3,500	S. & L.	Op.	Burton
Warner-Quinlan, Cairo	1,000	S. & L.	Op.	
Total	10,250			

WYOMING

Company and location—	Capacity	Type of Plant	Status May 1	Type of Cracking Process
Alliance Oil & Ref. Co., Thermopolis	1,500	Skm.	S. D.	
General Pet. Co., Lovell	1,000	Skm.	Op.	
*Midwest Ref. Co., Standard Oil Co. (Ind., (three plants), Casper	50,000	Comp.	Op.	Burton
*Midwest Ref. Co., Laramie	3,000	Skm.	Op.	Burton
*Midwest Ref. Co., Greybull	4,000	S. & W.	Op.	Burton
Mutual Oil Co., Glenrock	5,000	Skm.	Op.	Special
Mutual Oil Co., Cowley	2,000	Skm.	Op.	
McWhorter Oil & Ref. Co., Lusk	250	Skm.	S. D.	
Osage-Upton Oil Co., Osage	300	Skm.	Op.	
Producers & Refiners Corp., Parco	10,000	Skm.	Op.	Dubbs
Riverton Wyoming Ref. Co., Riverton	2,000	Skm.	S. D.	
Standard Oil Co. (Ind.), Glenrock	1,500	Ck.	Op.	Burton
Texas Co., The, Casper	6,000	Comp.	Op.	Holmes-Manley
United States Oil & Ref. Co., Osage	1,000	Skm.	Op.	Cross
Wind River Ref. Co., Lander	1,000	Skm.	S. D.	
White Eagle Oil & Ref. Co., Casper	2,500	Skm.	Op.	Holmes-Manley
Wyatt Oil & Ref. Co., Fetterman	400	Skm.	Op.	
Total	96,450			

*Operated by Standard Oil Co. of Indiana.

Extreme Simplicity and Absence of Superfluous Parts Give "Western" Duplex Engines Greater Efficiency



Simplicity in design, construction and operation are features which tend to make "Western" Duplex Gas Engines the most efficient, dependable power units for oil field use.

The high standard of perfection which every "Western" Engine must meet, and the rigid inspection as to quality, strength and interchangeability which every part undergoes, is an additional guarantee that in a "Western" Engine you have the best that can be had.

Fuel economy, low maintenance cost and the length of service for which "Western" is noted are also factors which contribute to "Western" popularity.

Sizes 80 to 320 H. P., Two- and Four-Cylinder Units. Suitable for all general power purposes.

Bulletin on request

Western Machinery Company

904 N. Main St., Los Angeles, Calif.

Tulsa Oklahoma | **Okmulgee Oklahoma** | **San Francisco California** | **Bakersfield California**

734

REFINING AND MARKETING

PHILLIPS PETROLEUM BUYS GASOLINE PLANTS

Purchase of the four gasoline plants of the National Gasoline Co. of Shreveport, La., by the Phillips Petroleum Co. of Bartlesville, Okla., has been completed. The deal includes the transfer of a 10,000-gallon plant near Homer, La., two plants at Pioneer and Breckenridge, Tex., and a plant now under construction at Wewoka, Okla. The Wewoka plant was formerly the property of R. H. Smith and later the Dixie Oil Co., and was started as a two-unit plant. It was sold recently to the National Gasoline Co., which immediately made plans to add 10 units. The work of construction will be completed by the Phillips Petroleum Co., giving it one of the largest plants in that part of the country. The three plants in Texas and Oklahoma are expected to produce 60,000 gallons daily. Consideration is reported at sums varying from $500,000 to $1,000,000.

Purchase of the four plants from the National Gasoline Co. gives the Phillips Petroleum Co. a total of 19 plants in operation or under construction and, according to reports in financial circles, gives the company a potential production of 225,000 gallons daily after the completion of the plants now being built. The 16 plants of the company now operating are said to produce in excess of 175,000 gallons per day, while the three plants under way are expected to add 50,000 gallons to the output.

The deal with the National Gasoline Co. included 75 new tank cars recently purchased from the General American Tank Car Co., which are being delivered at the present time. The same company through R. J. Sharpe and Bob Rose of the Tulsa office has sold the Phillips Petroleum Co. an additional 125 tank cars of the 8,000-gallon insulated type for delivery in June. These new cars will be utilized by the company to care for the increased production.

NEW ANTI-KNOCK COMPOUND

NEW YORK CITY, May 17.—Dr. Miller Reese Hutchinson has announced that he has discovered a chemical compound which, he says, in combination with commercial gasoline, virtually eliminates danger from toxic discharges of the deadly carbon monoxide from the exhausts of motor cars. Dr. Hutchinson's development came through the use of an experimental compound, which has not been revealed, in the gasoline tank of his motor car. By introduction of an ounce of the compound in five gallons of the gasoline he is claimed to have reduced the monoxide in the exhaust more than 50 per cent, in addition to eliminating carbon deposits and knocking.

NATURAL GASOLINE MEETINGS

The executive committee of the Association of Natural Gasoline Manufacturers will hold the first of a series of district meetings for plant operators in the Burbank or Tonkawa district early in June. The association, together with the Mid-Continent Oil & Gas Association and the Western Petroleum Refiners' Association, is planning to take immediate action on the proposition of a campaign of education for the public concerning the merits of the oil industry.

VELMA PIPE LINE FINISHED

DUNCAN, Okla., May 19.—The Rock Island Refining Co. has finished its 4-inch pipe line from the Velma shallow field to its refinery here and is now running oil to the plant.

THREE COMPANIES MARKETED OVER HALF ARKANSAS GASOLINE IN APRIL

Three companies—the Standard Oil Co. of Louisiana, Pierce Oil Corp. and the Magnolia Petroleum Co.—marketed 51 per cent of the gasoline sold in the State of Arkansas during April, according to the monthly inspection report issued by a State department. The same three companies marketed 62.6 per cent of the kerosene in the State during the month.

The Standard Co. led in the State with a total gasoline inspection of 764,173 gallons. The Magnolia Petroleum Co. was second with 667,226 gallons and the Pierce third with 641,551 gallons. The three companies led in the same order in kerosene sales.

The inspections for the State totaled 4,049,716 gallons. Of this total 653,299 gallons or approximately 16 per cent were inspected in Little Rock, the largest city in the State.

Companies Reporting

Following is a list of the companies making the report with their gasoline and kerosene inspections:

Company—	Gasoline	Kerosene
Arkansas Refining Corp.	48,717	.....
Arkla Petroleum Co.	8,039	8,000
Almyra Rice Growers' Supply Co.	.....	72,660
Bear State Oil Co.	56,138	16,187
Benton Miller Oil Co.	32,220	8,169
Big Four Oil Co.	35,251	8,075
L. Bigham	.....	8,196
Bost Oil Co	8,101	.....
City Garage	8,167	.....
Continental Gas & Oil Co.	24,439	3,894
Cooperative Buyers' Assn.	56,385	56,618
Crossett Mercantile Co.	8,117	.....
DeLong Machinery Co.	8,257	.....
Dixie Service Station	8,069	.....
Walter Dunlap	8,208	.....
El Ro Oil Co.	8,102	8,094
Ellis Motor Co.	250	.....
555 Tire & Service Co.	64,814	.....
Fordyce Oil Co.	16,124	8,168
Franks Oil Co.	24,430	8,079
Gaines Service Station	8,076	.....
Gas & Oil Delivery Co.	24,299	.....
Gay Oil Co.	319,291	91,065
Gentry Oil Co.	8,150	8,147
Gibson Oil Co.	243,009	40,709
Gulf Refining Co.	116,858	49,102
Hayes Lamb Motor Co.	8,092	.....
Home Refining Co.	28,138	5,497
Independent Oil Co.	8,299	.....
Johnson Oil Co.	18,144	8,245
Leachville Oil & Coal Co.	.....	8,120
Lone Star Service Station	10,174	.....
Magnolia Petroleum Co.	667,226	285,336
National Refining Co.	8,017	.....
National Park Petr. Co.	24,040	.....
J. M. Nettles	8,208	.....
Ozark Filling Station	16,105	8,096
Pattison Oil Co.	16,235	.....
Pierce Oil Corp.	641,551	268,023
Polk Brothers	8,046	.....
Red Gin Co.	8,167	.....
Riceland Petroleum Co.	32,327	30,700
Robinson Smith Co.	12,587	.....
Russell Oil Co.	97,190	.....
Scenic Service Station	6,507	.....
Shoffer Oil Co.	32,541	.....
Sallee Brothers	8,067	8,072
R. B. Sigman	32,117	8,000
Simpson and Minturn	8,117	.....
Smith & Co.	.....	8,110
Smith Service Station	21,096	.....
Southern Mercantile Co.	8,057	.....
Southern Oil Co.	32,373	8,045
Southwestern Oil Co.	20,148	10,204
Square Deal Merc. Co.	8,064	.....
Standard Oil Co.	764,173	416,042
Stephens Oil Co.	8,054	8,043
The Texas Co.	163,617	24,454
M. L. Thompson	8,290	.....
Waite Phillips Co.	149,395	38,316
Waldo Motor Co.	8,018	.....
Warden Service Station	8,081	.....
Washington County Hdw. Co.	7,144	.....
Total	4,049,716	1,546,514

Gasoline Inspected in Little Rock for April, 1924

Arkansas Refining Co.	48,717	.....
555 Tire & Service Co.	56,814	.....
Gas & Oil Delivery Co.	24,299	.....
Gay Oil Co.	90,004	16,062
Gibson Oil Co.	72,829	8,173
Magnolia Petroleum Co.	147,191	48,549
National Refining Co.	8,017	.....
Pattison Oil Co.	16,235	.....
Pierce Oil Co.	16,230	8,097
Robinson Smith Co.	12,587	.....
E. R. Russell Co.	72,981	.....
Standard Oil Co.	29,132	11,242
The Texas Co.	32,708	.....
Warden Service Station	8,081	.....
Total	653,299	92,123

WESTERN REFINERS WIN ON SWITCHING CHARGE

The Western Petroleum Refiners' Association won its case wherein it attacked the rule on switching charges, when the Interstate Commerce Commission at Washington recently concluded that Rule 12 of the reconsignment code was unreasonable and it was overruled to the extent indicated in the report and with respect to the traffic concerned in Reconsignment Case, 47 I. C. C., No. 591. The commission held to be unreasonable the rule providing for the application, plus a reforwarding or reconsignment charge, on petroleum and petroleum products, in tank car lots, placed on private sidings for unloading at destination, and reforwarding therefrom without being unloaded to a point outside the switching limit.

The commission held that the nature of petroleum demands that it be inspected and unloaded on private sidings rather than the public tracks in the interest of public safety. Railroads were given until July 24 to put into effect a rule providing for the assessment of charges on such shipments on the basis of the through rate from the point of origin over the route of movement to the second billed station, plus the usual reforwarding or reconsignment charge.

Rule 12, providing for a reconsigning charge, was the cause of frequent inspection of petroleum products on the public tracks rather than on the less dangerous private tracks. The charge was alleged to place the shippers at the mercy of unscrupulous consignees.

STATE DEFENDS GASOLINE TAX

OKLAHOMA CITY, Okla., May 17.—C. C. Childers, State auditor, and George F. Short, Attorney General of the State of Oklahoma, are ready to resist the suit brought by the Marland Refining Co. against Childress, as auditor, in which the new 2½-cent gasoline tax law, effective March 7, 1924, is attacked. In its suit the Marland Co. alleges that, having paid its tax on the 97 per cent of its storage gasoline, the State could not legally collect an additional tax on the same gasoline under a law passed after the original tax had been paid. The company had paid the old gasoline tax of 1 cent per gallon and then under protest paid the additional 1½-cent increase in the tax.

WEST TEXAS REFINING CO.

OKLAHOMA CITY, Okla., May 19.—L. H. Prichard, J. Steve Anderson and P. M. Anderson, officials of the Anderson-Prichard Oil Corp of Oklahoma City, incorporated the West Texas Refining Co. with a capital stock of $25,000. This company will have charge of the refinery being installed at Colorado, Tex., by the Anderson-Prichard group.

CALIFORNIA REFINERY FIRE

BAKERSFIELD, Calif., May 17.—Loss estimated at $500,000 was suffered when the refinery of the Richfield Oil Co. was burned today. Sixty-five thousand barrels of crude oil stored on the property was consumed in addition to the refinery products, buildings and equipment.

EVOLUTION TOWARD MASS DISTRIBUTION

By John B. Waldo

CHICAGO, May 17.—One of the active heads of a very large and complete organization in the industry stated in a general conversation this week that it was his opinion and that of others who studied the trend of the industry, that in a few years there would be no refiners who did not have their own distribution and no distributors of consequence who were not owned by some refiner. His prediction also extended to the number of concerns that would be engaged in the business of refining and distributing petroleum products at the end of a dozen years, and his estimate will not bear printing for it means either a wholesale disappearance of the inefficients or mergers on a scale that has not been dreamed of. The talk came about over an address made at the recent meeting of the Chamber of Commerce of the United States by Edward A. Filene of Boston, head of one of the largest department stores in that city, who advocated as a remedy for the large costs of distribution what he termed mass selling, or the application of quantity selling along the same lines as quantity production in the manufacturing industries.

The refiner referred to expects that the gradual result of competition between the refiner with his string of distributing stations and the independent refiners and jobbers, as well as the struggle for business between the larger organizations will result in the elimination of all who are inefficient, including those who are not efficient because they have some disadvantage as to location or personnel.

TRUSTEE OBER SUES INDIAHOMA OFFICERS

ST. LOUIS, Mo., May 17.—John H. Ober, trustee in bankruptcy of the Indiahoma Refining Co., has filed suits in Circuit Court here seeking to recover approximately $1,000,000 from the former officials of the Indiahoma Co. One suit asks that $665,000 in stock of the Oklahoma Northern Railway Co. be turned over to the stockholders of the Indiahoma Co. This railroad is now owned and operated by officers of the Indiahoma Co.

It is alleged the officers purchased the railroad from funds of the Indiahoma Co. before the company was placed in the hands of a receiver. The line is 9 miles long, extending out of Okmulgee. The suits also ask that the defendants return to the Indiahoma Co. $200,000 which it is alleged they received in profits and salaries through the operation of the railroad.

The remaining suits ask payment of balances due on unpaid Indiahoma stock, the return to the stockholders of large bonuses alleged to have been paid while the defendants were in control of the company and also seeks return of other funds alleged to have been misappropriated. The Indiahoma Co. has been in the hands of a receiver since February.

SALT CREEK GASOLINE PLANT

CASPER, Wyo., May 19.—The E. T. Williams Oil Co. will start work June 1 on a gasoline absorption plant in Section 19-40-78, Salt Creek Field, which will handle 4,000,000 to 5,000,000 feet of gas daily. The plant will be built by the Southwestern Engineering Co. of Los Angeles, Calif. Material is being shipped an dthe plant will be in operation, according to reports by August 1.

"Top Notch" [Refinery] and natural gasoline

We are supplying with our usual promptness all grades of natural gasoline.
And because of the opening of our Sand Springs Refinery, we can also offer

New Navy Gasoline
32-36 Light Straw Gas Oil
Low Cold Test Fuel Oil

Natural is supplied in the following grades:

GRADES MANUFACTURED BY CHESTNUT & SMITH CORPORATION, TULSA, OKLAHOMA

NATURAL GASOLINE

GRADE "A"	Gravity	Not below 72° Be. Not above 78° Be.
	E. P.	Not over 375° F.
	Recovery	Not less than 90%
GRADE "B"	Gravity	Not below 76° Be. Not above 82° Be.
	E. P.	Not over 375° F.
	Recovery	Not less than 85%
GRADE "C"	Gravity	Not below 80° Be. Not above 88° Be.
	E. P.	Not over 350° F.
	Recovery	Not less than 78%
GRADE "D"	Gravity	Not below 88° Be. Not above 92° Be.
	E. P.	Not over 350° F.

MOTOR NATURAL GASOLINE

GRADE "1"	Gravity	Not below 58° Be. Not above 62° Be.
	E. P.	Not over 437° F.
	Recovery	Not less than 91%
GRADE "2"	Gravity	Not below 58° Be. Not above 62° Be.
	E. P.	Not over 450° F.
	Recovery	Not less than 90%
GRADE "3"	Gravity	Not below 64° Be. Not over 66° Be.
	E. P.	Not over 440° F.
	Recovery	Not less than 88%
GRADE "4"	Gravity	Not under 66° Be. Not over 70° Be.
	E. P.	Not over 435° F.
	Recovery	Not less than 85%

Many oil men are clipping the above table and placing it under the glass of their desks or in other places for ready reference.

CHESTNUT & SMITH CORPORATION

General Offices: Chestnut & Smith Bldg., Tulsa, Okla.

California Methods in Natural Gasoline

Difficulties of Pacific Coast Operation Forced Improvements Which Are Now Being Studied by Mid-Continent Manufacturers

Like the pioneers of 1849, Mid-Continent gasoline plant engineers are turning their faces toward California. The lure of gold drew the '49ers to the West, but the lure of greater efficiency is now attracting the attention of technical experts in the manufacture of natural gasoline.

Men who have studied the methods of design, construction and operation of gasoline plants in the two regions are ready to concede certain advantages to the California operators. These concessions are not made to the discredit of the Mid-Continent men, as the technical developments in Oklahoma and Texas during 1923 have been remarkable.

The California operators, however, have been forced to use a comparatively lean gas, and entirely different working conditions in that State were thrust upon them. These conditions called for engineering changes of importance if the operators there were to utilize the gas to the best advantage and make natural gasoline in appreciable amounts.

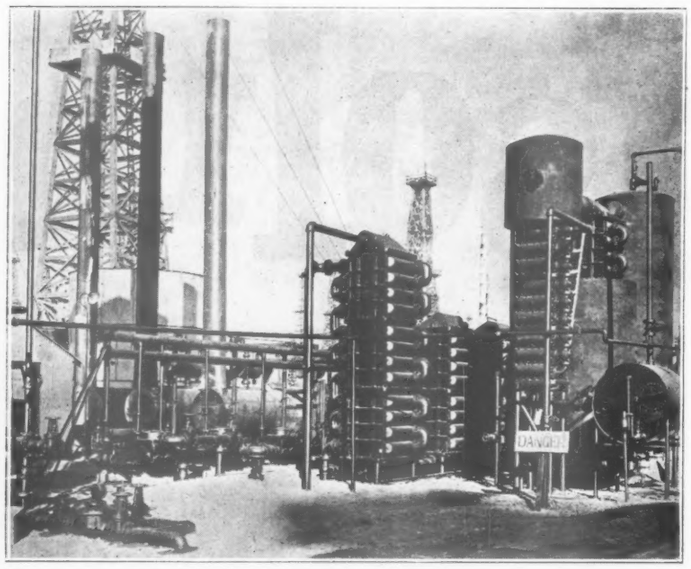
The recent growth of the natural gasoline business in California has surprised the oil men of that State. Production during September, 1923, was estimated at 14,600,000 gallons and with steadily increasing output, it has been estimated that approximately 17,000,000 gallons of natural gasoline was being produced monthly at the opening of the present year. The March, 1924, output was estimated to be in excess of 19,000,000 gallons. This figure, if maintained in 1924, would put the production of natural gasoline in that State at a figure more than three times the total production in California during 1922, as given by the United States Geological Survey. In that year, California held third place in the production column, being surpassed in output by Oklahoma and Texas. Operators in these States are taking stock of their equipment and are wondering if California methods would not work to good advantage if utilized in the Mid-Continent.

California's Difficulties

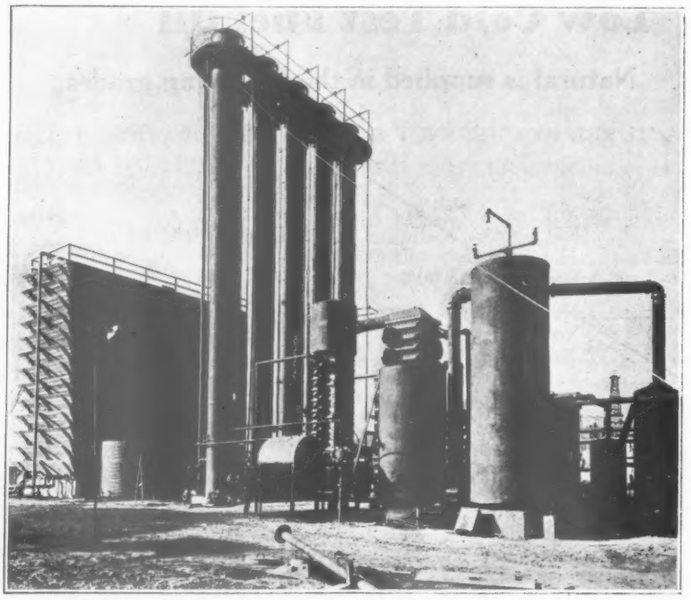
Among the diffculties faced by the California operators following the development of the large fields in the southern part of the State were the following: Lean gas, fluctuating supply, high annual atmospheric temperatures and the necessity for conservation of space. Operators in most Mid-Continent areas depend for operations upon gas showing a recovery of about two gallons per 1,000 feet. In many regions, tests on individual wells will show as much as six or seven gallons per 1,000 feet and many plants have shown a recovery of four or five gallons. The California operators, on the other hand, were forced to utilize gas after showing an average content of one gallon per 1,000 feet. As a result California plants observe very economical practices in the oil absorption process.

Following the development of Santa Fe Springs, Signal Hill and Huntington Beach, many small gasoline plants were put into operation upon certain wells. Contrary to expectations, the gas volume increased for three to five months after completion of the wells, making it necessary for the gasoline plant operators to install equipment that could be spotted quickly and torn out rapidly with a salvage value approximately 100 per cent. This item was forced on the operators on the Pacific Coast due to the rapid decline of the gas in some districts following the unexpected increase in flow after completion.

In the Mid-Continent area, under present operating conditions, it is an accepted fact that in many plants the greatest production of natural gasoline is secured during winter months and during night time. This daily variation and seasonal fluctuation in the production of gasoline is caused by the daily variations in temperature and the seasonal temperature changes. At night, the gas, oil and condensing water become colder, greater cooling is secured and a larger amount of gasoline is condensed. The same factor holds true for the seasonal variations.



Long Beach Gasoline & Refining Co., Plant No. 2, Long Beach, Cal. A typical installation showing the compact construction and the method of utilizing the unit-type heat transfer apparatus at different points. This plant has a capacity of 11,000 gallons. Left to right: Boilers three-section heat exchanger, two-section heat exchanger, and behind it two-section oil cooler; three-section condenser with water separator below to right, and mist collector on top; dephlegmator, and at rear, vertical steam still or evaporator.



Another view of Long Beach Gasoline & Refining Co., Plant No. 2. Left to right: Cooling tower for water, water storage tanks, absorbers, condenser with mist collector on top, and water separator below with lock box; dephlegmator; steam still; rear end of heat exchanger units and preheater.

The Californians were faced with the necessity of making gasoline in a climate where there was no winter weather to boost production and where the approach of night did not bring such a large reduction in temperature as in other sections of the country. The question of making gasoline was put up to the California engineers as an engineering problem, and it is significant that they have solved it and are able to make gasoline out on the desert, with the thermometer standing above 110 degrees F. in the shade.

Town lot development in the pools of southern California brought out the necessity for the conservation of space. Derricks were jammed close to each other and tankage covered much of the space between the derricks. The space available for gasoline plants was consequently restricted and another problem was put up to the engineers. Instead of covering several acres with buildings, equipment and tankage, as in the Mid-Continent, the operators in California often put up plants making from 25,000 to 50,000 gallons of Grade A gasoline on two or three city lots.

Use of Unit System

One of the biggest features in the development of the California type natural gasoline plant has been the perfection and introduction of the unit system in construction based on the utilization of the closed type of small tube heat transfer apparatus. Application of this closed type small tube unit type heat transfer apparatus to the natural gasoline industry came as a result of the utilization of the same type of apparatus in connection with intercoolers and aftercoolers on air compressors in mining work. The units are used as heat exchangers, condensers, preheaters, gas and oil coolers and jacket water coolers.

The ability of California engineers in the construction and efficient operation of gasoline plants is nowhere better illustrated than in the Signal Hill absorption plant of the Shell Co. of California, which treats more gas, makes more natural gasoline and circulates more oil than any plant in the nation or the world, according to Mid-Continent engineers who have visited the plant recently. This plant treats 90,000,000 feet of gas daily, makes 75,000 gallons of Grade A gasoline and circulates 2,500,000 gallons of absorption oil of 34 gravity daily, at the rate of 1,735 gallons per minute. The entire plant with a few small exceptions, covers a space only 400 by 400 feet.

Elasticity of Apparatus

The construction of the plant is the result of a preliminary study of nearly a year on the part of W. L. Rifenberick and L. L. Carter, of the engineering department of the Shell Co. To show the elasticity of the apparatus used and the merit of the unit type of construction, the original plant was designed to handle 6,000,000 feet of gas and was operated first in September, 1922. The additional units have been added successively, with no interruption to the operations of the plant until the final additions were completed and the enlarged plant in its present form was making 75,000 gallons of gasoline daily in February, 1924.

Mr. Rifenberick, who has been inspecting the Mid-Continent properties of the Roxana Petroleum Corp., believes that many of the California improvements will be utilized by Mid-Continent manufacturers before long. He described the big Shell plant as follows:

Shell Plant Operation

"Most of the gas for the Signal Hill plant is utilized on well pressure. By this means we are able to force approximately 55,000,000 feet through the plant. Nine 160-horsepower Western engines short belted to Ingersoll-Rand compressors are used to handle the remaining 35,000,000 feet of gas, taking the gas at a 10-pound suction and discharging at a pressure of 27 pounds. The discharge from the compressors is turned into a large horizontal receiving tank, measuring 10 by 40 feet which overcomes the engine pulsations. Field gas

(Continued on Page 116)

Special HI-STEEL Return Bends for a Cross Cracking Process Unit operating at 800 pounds pressure and 750° F.

HI-STEEL extra heavy special High Pressure Fittings

Special Flanged Ells with companion Flanges, made of electric steel with 2500 lbs. test pressure.

Shut down of the Pressure Stills may be caused by failure of one bad fitting—this may cause fire, loss of life, property damage.

Specify HI-STEEL FITTINGS—the finest, most dependable pressure fittings made anywhere—cast from high-grade electric steel—accurately machined and tested to 2500 lbs.—carefully inspected—every operation from melting the steel to delivery in the car done in our own plant under experienced supervision.

Good Fittings—HI-STEEL FITTINGS—will stand up under tough service—no worry about failure or leaking—put them on and they're on to stay—on many installations of Cross outfits they are as good as new after two years of high pressure and heat.

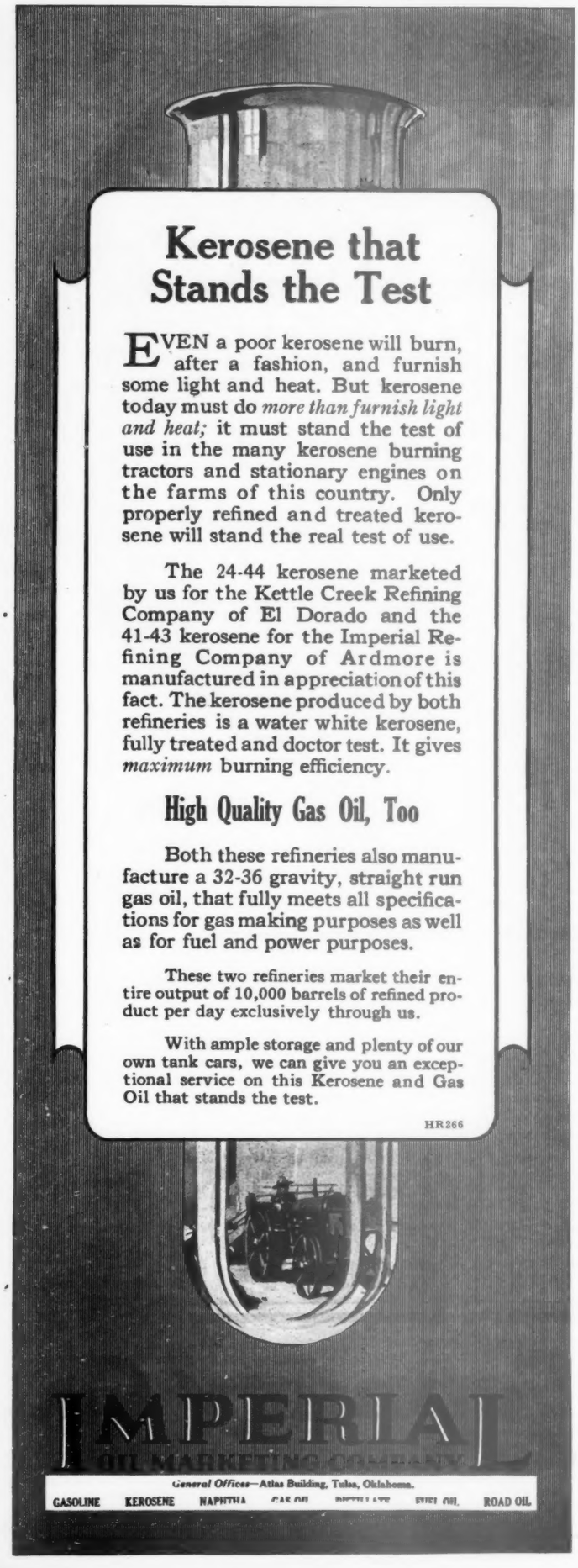
Many refineries are rightfully depending on HI-STEEL FITTINGS for high pressure production.

Let us quote you

Plants:
SPRINGFIELD—LIMA—BUCYRUS

Offices:
St. Louis—Railway Exchange Bldg.
Chicago—Peoples Gas Building
Cleveland—Union Trust Building
Pittsburgh Park Building
New York—50 Church St.
Philadelphia—22 S. 15th St.

The Ohio Steel Foundry Co.
Springfield, Ohio.


Kerosene that Stands the Test
EVEN a poor kerosene will burn, after a fashion, and furnish some light and heat. But kerosene today must do more than furnish light and heat; it must stand the test of use in the many kerosene burning tractors and stationary engines on the farms of this country. Only properly refined and treated kerosene will stand the real test of use.
The 24-44 kerosene marketed by us for the Kettle Creek Refining Company of El Dorado and the 41-43 kerosene for the Imperial Refining Company of Ardmore is manufactured in appreciation of this fact. The kerosene produced by both refineries is a water white kerosene, fully treated and doctor test. It gives maximum burning efficiency.
High Quality Gas Oil, Too
Both these refineries also manufacture a 32-36 gravity, straight run gas oil, that fully meets all specifications for gas making purposes as well as for fuel and power purposes.
These two refineries market their entire output of 10,000 barrels of refined product per day exclusively through us.
With ample storage and plenty of our own tank cars, we can give you an exceptional service on this Kerosene and Gas Oil that stands the test.
HR266
IMPERIAL
OIL MARKETING COMPANY
General Offices—Atlas Building, Tulsa, Oklahoma.
GASOLINE KEROSENE NAPHTHA GAS OIL DISTILLATE FUEL OIL ROAD OIL

EASTERNERS MAINTAIN OPTIMISM DESPITE UNSEASONABLE WEATHER

By N. O. Fanning

NEW YORK, May 17.—A week of almost steady rain practically throughout the Atlantic Seaboard restricted consumption of oil during the past week, but a good weekend is now promised. Price cutting became somewhat more general, especially in the Boston territory, where most marketers are now quoting 18 cents, tank wagon basis.

However, that the gasoline situation is not alarming is evidenced by the fact that most of the large marketers have withdrawn offerings of spot gasoline, and on the contrary are in the market for New Navy on a large scale. It appears that they are not ready to pay current prices for the product, but are hoping to pick up any distress gasoline that comes into this territory at prices which would mean a loss to the sellers, according to belief.

Indications are that large factors here are leaning toward lower tank wagon prices temporarily. Competition from Gulf independents who ship gasoline around in tankers is particularly keen, although one company has now restricted its shipments somewhat. This is what resulted in the weakness in gasoline in the New England territory. Now, however, additional supplies are coming from the producing regions by tank car.

It is generally recognized that the weather has been the leading factor in the gasoline market this spring. In fact it is commonly said that there has been no spring this year in this territory, and that soon we will plunge into hot summer weather. In view of this, the expected seasonal gain in consumption during April and May has only been partially realized. This has resulted in a somewhat depressed price situation, with a little distress gasoline appearing in nearly every section of the country. Luckily, this has been partly offset by the fact that refiners everywhere were quick to realize the situation and have reduced their production accordingly. When the expected rise in consumption does take place, therefore, it should result in an almost immediate improvement in the price situation.

Lubricants Dull

The lubricating oil market is increasingly dull. The smokestack trade has fallen off somewhat, and as a result of the decrease in the price of Pennsylvania crude, jobbers are disposed to shade quotations. The large marketers have not yet cut prices, however.

The demand for wax holds up unusually well. Prices are unchanged.

Kerosene Reduced

The Standard Oil Co. of New York reduced the price of kerosene in its domestic territory 1 cent per gallon to 14 cents. Some concessions below that figure are being made at inland points.

Fuel Oil More Plentiful

The demand for fuel oil has become less urgent, and the rush to bring supplies into this territory has helped to create a safer position that has been held so far this year. One factor is the commencement of shipments of Luling crude to the Atlantic Seaboard by Atlantic Refining Co. and others. This has relieved the shortage considerably. On the other hand, shipments of heavy oil from Mexico have been at a low ebb. The new situation forced The Texas Co. to reduce its price for bunker fuel oil at New York harbor from $1.85 to $1.75 per bbl., the latter price now being universally quoted.

Export Demand Lighter

The export demand for gasoline, kerosene and lubricants has fallen off somewhat from the figures registered early in the year. This was expected by students of the situation, who say that stocks abroad are very high. However, there is nothing alarming in the situation, inasmuch as current shipments are larger than the average of former years. The decrease in the export movement is merely from the record figures of January, February and March, which were considered abnormal.

There was a noticeable absence of inquiries for oil charters during the week.

The feature of the tanker market was the purchase of the Shipping Board tanker "Watertown" by the Cities Service Co. for approximately $418,000, or $45 per ton. This tanker has been in the California trade for some time.

Oil Receipts Drop

The slight slowing up in the oil trade on the Atlantic Seaboard is reflected in a drop in receipts of crude by tanker at Atlantic ports. Receipts averaged 472,000 bbls. daily, the lowest figure since March. Receipts from the Gulf Cost, however, held up well, averaging 265,000 bbls. daily, a gain of 30,000 bbls. over the average of the week before. The feature was the drop in imports, which averaged 83,000 bbls. daily, compared with 152,000 bbls. thep receding ing week.

During the week a shipment of approximately 60,000 bbls. of Venesuelan crude was received at New York.

The following table shows estimated daily average receipts of crude and refined oil at Atlantic Coast ports by water from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks, also monthly record since January 1, last (figures in barrels):

From—	Week Ended		
Gulf Coast	265,000	235,000	301,000
Pacific Coast	124,000	115,000	110,000
Mex., other imports.	83,000	152,000	143,000
Total	472,000	502,000	562,000

Monthly Record (Daily Averages)

	Gulf	Pacific	Imports	Total
April	262,000	143,000	123,000	528,000
March	201,000	137,000	130,000	468,000
February	174,000	175,000	108,000	457,000
January	127,000	159,000	79,000	365,000

*Imports include shipments from Mexico, Trinidad and Peru.

EASTERN RECEIPTS OF CALIFORNIA OIL

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended May 10 totaled 875,000 bbls., a daily average of 125,000 bbls., against 908,000 bbls., a daily average of 129,714 bbls., for the week ended May 3.

At Atlantic Coast Ports—	
Baltimore	90,000
Boston	73,000
New York	391,000
Philadelphia	77,000
Others	84,000
Total	710,000
Daily average	101,429
At Gulf Coast Ports—	
New Orleans and Baton Rouge	165,000
Daily average	23,571
Total Atlantic and Gulf Coast Ports	875,000
Daily average	125,000

Imports of crude and refined oils at the principal ports for the week ended May 10 totaled 1,618,000 bbls. a daily average of 231,143 bbls., compared with 2,143,000 bbls., a daily average of 306,143 bbls., for the week ended May 3.

At Atlantic Coast Ports—	
Baltimore	60,000
Boston	221,000
New York	391,000
Philadelphia	45,000
Others	191,000
Total	818,000
Daily average	116,857
At Gulf Coast Ports—	
Galveston district	339,000
New Orleans and Baton Rouge	150,000
Port Arthur and Sabine district	194,000
Tampa	117,000
Total	800,000
Daily average	114,286
At all U. S. Ports—	
Total	1,618,000
Daily average	231,143

GULF SELLING ETHYL FLUID

HOUSTON, Tex., May 17.—The Gulf Refining Co. has started the sale of ethylized gasoline at its filling stations in Houston.

A year ago 30 per cent was considered a fair and satisfactory yield of gasoline when cracking gas oil, this of course once through the process

Today the Dubbs Cracking Process is yielding 40 per cent to 50 per cent gasoline from gas oil in each through put

Every Dubbs licensee is happy with these results and we are, too

Universal Oil Products Company
Owners of the Dubbs Process
312 South Michigan Ave
Chicago Illinois

Acting as the Refiner's Sales Force And as His Collector

THE Oil Refiner is really a manufacturer. To undertake the multitudinous problems of distribution, he would have to fasten to his organization a corps of salesmen, bookkeepers and credit men. And branch offices in the centers of oil demand.

So the reliable Wholesale Distributor of oil relieves him of these problems. The Wholesale Distributor, with his storage tanks and tank cars and with his salesmen in the territories, assumes this burden.

He buys from refiners and maintains a "warehouse" of oil, from which he can quickly and efficiently supply the needs of the Retail Distributors in his territory.

He buys in 50 to 500 car-load lots, giving the Refiner one large order where the Retail Distributor would have to give him many small ones.

Furthermore, and vitally important from the Refiner's standpoint, the useful Wholesale Distributor is able to pay the Refiner his money promptly.

The Refiner who deals with Acme, for example, knows he may always rely on a full and prompt remittance.

[This is second of a series of informatory advertisements on distribution problems with which the Oil Industry has to contend.]

ACME

Petroleum Company

Executive Offices: 624 S. Michigan Ave., Chicago

KANSAS CITY, MO. Land Bank Bldg.

DALLAS, TEXAS Magnolia Bldg.

OIL STORAGE PLANTS

West Tulsa, Okla. **Blue Island, Ill.**

(Chicago Switching District)

WEATHER BETTER IN CHICAGO ZONE

Gasoline Situation Improves, Although Some Jobbers Look for a Tank Wagon Decline. Carter's Big Purchase gave Strength to the Market. Western Farmers Slow in Adopting Tractors. Fuel Oil Purchases Are for Immediate Needs

By John B. Waldo

CHICAGO, May 17.—There has been quite a decided improvement in the weather and also in the gasoline situation, although there are jobbers and marketers who are still looking for a tank wagon decline. Many of these have good marginal contracts and they do not care how low the tank wagon market goes, but see in a decline an easy way out of the difficulties in the way of compensation. It is a sort of short cut and they think easier for them than to wait for an advance in the refinery market under present conditions of stocks.

Carter's Purchase a Stiffener

The taking of that large order for New Navy by the Carter Oil Co. for the Standard Oil Co. (N. J.) was reported early in the week and it simultaneously gave an undertone of strength to the situation. The opinion was freely broadcast that this buying as well as some other orders which came through at the same time, were the result of the belief that prices had reached the bottom and that a further drop would result in such far-reaching curtailment that future supplies might be imperiled. At the same time the weather became much more favorable over the territory and the demand even in the spot market showed improvement. One of the first reports received here was that refiners in North Texas that had been quoting as low as 9 and 9⅛ cents had advanced their prices to 9½ and 9⅝ cents which was verified in some cases by withdrawals of quotations. Quite a number of refiners began to quote at 10 to 10¼ cents for New Navy, and they are in some cases getting that price. The market would probably be firm at that figure and possibly at a higher price than these were it not for the fact that marketers have a lot of gasoline bought for May delivery at prices as low as 9¼ cents possibly less and they can and will make a price to get the order. Little business has been done at less than 9¾ cents during the week and were it not for the marketers with their contracts this price would not have been common. Several refiners are asking 10½ cents and even more for business from new accounts claiming that they have no gasoline to spare as their regular customers will now want all that they have. Some of the jobbers near Chicago were in the market during the latter half of the week buying cars in excess of their contract shipments and with these, this is the first time that they have done so since January. Inquiries were also quite active and some of them came from States outside of the usual territory tributary to this city.

The sellers in this market believe or at least hope that the jobbers, with fears removed of an early decline in the tank wagon market, and with increased gallonage, will now begin to fill their tanks and they figure that this would call for many thousand cars in the aggregate, and completely remove the incubus of excessive stocks. The demand is still for the New Navy grade in the main. The demand for the 56-58 gravity is light as the prices are but little in its favor at present in the spot market and it is but little offered. The higher test gasolines are moving on contracts but there is little demand from new business and prices are easy. Blends are moving in a routine way at easy prices. Natural gasoline seems to have firmed up a little after its recent slump, on the prospect of a more active demand for gasoline.

Kerosene Moving Steadily

Kerosene has been moving steadily and there is little change in prices. The better movement in gasoline has seemed to give a better tone to the kerosene market, not that it was easy but that it seemed to drag a little early in the week. The inquiry as to the usefulness of the kerosene offered for tractor and incubator use seems to suggest that the latter is as important a demand with many at least as the former. On a recent brief trip through the country quite a number of tractors were noted in use on road work, but not one in farm work. The western farmers do not seem to be buying tractors as rapidly as it was thought that they would, but in the southeastern cotton fields they are being used extensively it is reported.

Distillates are selling slowly the consumption having fallen off but still continuing at a low rate owing to the backward season which has extended the use of the domestic burners.

Fuel Oil Sales Uncertain

Fuel oil continues to sell mostly in a hand-to-mouth manner that is very aggravating to the dealers. The buyers' viewpoint is that prices will decline and they are offering less than the market price and getting their prices to some extent but not always. The general sense seems to be that there will be some less activity in manufacturing lines than last year at this time although undue pessimism is uncalled for. There is a condition of readjustment going on in some important lines and generally towards lower prices. Buyers have been held back by the backward season and even in the building lines, there is less activity generally, although in the Chicago district the building permits issued do not indicate any falling off in the amount of building contemplated, but in some cases the permits are not being taken out for immediate work. Smackover heavy crude is now held at substantially the same price as fuel oil. The present low price at the wells plus pipe line charges is greater than the present selling price of the heavy Smackover crude while the Standard of Louisiana is taking what it can get at 15 cents a barrel above the price made by The Texas Co., whose price is now 85 cents a barrel. The dealers argue that for certain purposes, many in fact, Smackover fuel is just as good as the refinery fuel oil.

There is nothing new regarding gas oil. The sales are largely routine filling of contracts and although refiners claim that stocks are not large the prices are unchanged and rather weak although some refiners have advanced their views a trifle on gas oil at the same time that they began to ask an additional 5 cents a barrel for fuel oil.

Road oil is very dull with offerings liberal and prices somewhat easier if anything.

Lubricating oils are quiet. The Standard Oil Co. is revising its quotations and other concerns are quoting f.o.b. refinery instead of on a Group 3 basis practically amounting to a reduction equal to the amount of the freight on the oils shipped to Chicago and nearby points and to destinations east of this city. The decreased demand for gasoline was paralleled in the sale of motor lubricants and the industrial demand is also decreased by the closing down or reduced operations of many industrial plants.

High grade steam cylinder stocks and bright stocks are in demand but generally the refineries are not burdened with orders. Wax is still firm but it is

For more efficient heat transfer in refining processes

G-R Vaneflo Exchanger (Tube bundle removed from shell).

Wherever heat is to be transferred from one liquid to another, the Griscom-Russell engineers have developed highly efficient processes and equipment based on half a century of experience.

Your crude stills, re-run stills, cracking stills, steam stills, absorption, compression, and extraction plants all offer opportunities to perform heat transfer processes quicker, more effectively, and at least cost with

Griscom-Russell Multiwhirl and G-R Vaneflo

Heat Exchangers— Dephlegmators—Coolers

Multiwhirl Exchanger

Maximum rate of heat transfer, minimum oil pressure loss, least space for required capacity, sturdy construction and easy cleaning features—these are some of the reasons for the popularity of Griscom-Russell apparatus.

The proof— Over 2,000 in Service

Send the Coupon for Complete Information

THE GRISCOM-RUSSELL COMPANY

94 West Street, New York

Philadelphia, Washington, Boston, Hartford, Rochester — Pittsburgh, Cleveland, Columbus, Toledo, Detroit, Indianapolis — Chicago, Milwaukee, Minneapolis, St. Louis, Kansas City — New Orleans, Houston, Dallas, Fort Worth, Denver, Charlotte — San Francisco, Salt Lake City, Los Angeles, Charlotte, Seattle

Name .....
Address .....

THE GRISCOM-RUSSELL COMPANY
94 West Street, New York City
Gentlemen:—Please send copy of your Bulletin No. 910 describing Multiwhirl Coolers.
O&GJ-5-22-24

Sent upon Request

10 to 20% Yearly Loss

The yearly evaporation loss in a typical 55,000 bbl. tank is estimated at 10 to 20 per cent.

HOW TO PREVENT THIS LOSS is a matter of vital interest to oil producers, refiners and marketers.

When converted into dollars and cents, the total is staggering,—when compared with the cost of insulation, it is found that insulation will pay for itself within a very few months.

"The Insulation of Oil Storage Tanks" shows how evaporation losses can be reduced to a minimum in all types of tanks used for the storage of crude oil and gasoline.

SENT FREE UPON REQUEST

Write nearest office for Bulletin C-19, or mail the coupon

This book is full of valuable information for you

CELITE PRODUCTS COMPANY

NEW YORK - 11 BROADWAY. CHICAGO - 53 W. JACKSON BLVD.
LOS ANGELES - VAN NUYS BLDG. SAN FRANCISCO - MONADNOCK BLDG.
OFFICES AND WAREHOUSES IN PRINCIPAL CITIES
CELITE PRODUCTS LIMITED, NEW BIRKS BLDG., MONTREAL, CANADA
CELITE PRODUCTS CORPORATION, WINDSOR HOUSE, LONDON, S.W.1., ENGLAND.

Celite Products Company,

Gentlemen:

Without obligation send Bulletin C-19, "The Insulation of Oil Storage Tanks."

Name_____

Position_____

Company_____

Address_____

possible to get an early shipping date now and not necessary to wait 30 days for delivery.

Tank wagon markets have not been generally changed and the present idea is that expressed some weeks back that there will be no general change although cuts will be met as they come to light. The industry will be given a chance to see what will be the result of a period of really good gasoline weather. Some of the independent jobbers have been clamoring for a lower price and with many that would be for their immediate benefit as their costs would decline with the tank wagon reduction while it is assumed that refinery prices to spot buyers are so low that they could not be further declined. This would give the local jobber without a contract a gross profit of 6 cents out of which he would have to pay at least 2.38 cents a gallon for freight leaving but 3.62 cents for all other expenses of doing business and his profit. On that basis the price cutting would have to stop if refiners held to their prices as they would have to do or go broke for even this jobber was willing to admit that 9-cent gasoline was not a profit maker for the refiner and in the long run there would be less of it made. Some jobbers assert that gasoline in the refiners' storage costs close to 7 cents a gallon and to this must be added the sales expenses, overhead costs including interest on investments. According to this way of figuring, a reduction of 3 cents in the tank wagon market would very shortly so decrease the number of plants making gasoline that the supply would be less than the demand and then a slow recovery might be expected.

CANADIAN FIELDS

(Continued from Page 40)

reported to have arranged to develop the Hudson Bay Co. holdings; but this arrangement, if it ever existed, has not been followed up. It is understood the present arrangements contemplate drilling in the Irma-Wainwright area of east central Alberta, and that later the drilling operations may extend to other areas. So far, however, the British companies have made no official announcement of plans along this line, nor have any steps been taken by them in the direction of locating tests, and the season's work in the Irma-Wainwright area is still almost entirely in the hands of companies financed either locally or from Vancouver, B. C. Imperial Oil, Ltd., still holds extensive acreage in this field, though the results of its two tests have been negative so far as oil is concerned; the company has made no location for a test this season, and may not drill in this area. British capital is reported to be financing development work in the Many Island Lake area to the extent of £1,000,000, and the Shell interests are generally credited with the financing.

Sweet Grass District

In Sweetgrass district, southern Alberta, the Canadian Oil & Refining (Rogers-Imperial) gasser, Section 29-1-11w4, is shut in pending tests of the gas. The production is generally understood to be a wet gas, from an horizon approximately 500 feet lower than the Bow Island dry gas sand. If the tests develop a satisfactory gasoline content, the well will probably be finished as a gasser at the present horizon and the production utilized for gasoline extraction and carbon black manufacture, and a second well drilled to test the lower formations for oil. The strike has drawn attention to the eastern end of the Sweetgrass district, and three other companies are reported to have made tentative locations for drilling, though the Canadian Oil & Refining Co. has the close-in territory pretty well blanketed.

In Many Island Lake district, Commuity Oil Wells, Ltd., of Medicine Hat, is undertaking a local "drive" to raise $25,000 to complete its test on Section 19-14-1w4, and has resumed actual drilling at about 2,471 feet. The test has already some gas production, but is to be carried deeper for oil.

In the Irma-Wainwright Field, east central Alberta, British Petroleum, Ltd., No. 3, Section 29-45-6w4, is finishing its permanent camp and has derrick timbers and some machinery on the ground, and is drilling a water well. Gas lines are being connected with the line already laid to No. 2 well, about 2 miles distance. The test will start drilling with a heavy rotary outfit before the end of May. The crew in charge will include Bert Travis, head driller, F. Stevens, assistant and S. W. Nuens, tool dresser, all of Los Angeles, and Tod Morrison, derrick man, of Wyoming. Immediately No. 3 is rigged up, a location will be made for No. 4, the company planning to drill the tests simultaneously through the season.

The Maple Leaf Oil Co., Section 24-45-8w4, is rigging up for No. 1 test, with a 116-foot derrick. The heavy rotary outfit used last year by the Edmonton Gas & Development Co. for drilling the British Petroleum tests is being moved to the location, and drilling will start about May 24. F. C. Beresford, who has done work for the Anglo-Persian Oil Co. in Persia and the Anglo-Egyptian Oil Co. in Egypt, will have charge of the drilling. The Maple Leaf Oil Co. is financed largely by Vancouver, B. C. men, J. C. C. Bremner of Clover Bar being the Alberta director.

The General Oil & Development Co. of Vancouver is bringing a standard rig from Calgary to complete the Wainwright Oil & Development Co. test on Section 36-44-7w4. The Mutual Oil Co. of Vancouver, B. C., capitalized at $300,000, has secured a rig and expects to spud in the latter part of June. Geologist O. C. Coulter is making the location. The Irma Oil Development Co. is getting ready to resume work on Section 28-45-9w4, shut down since last fall.

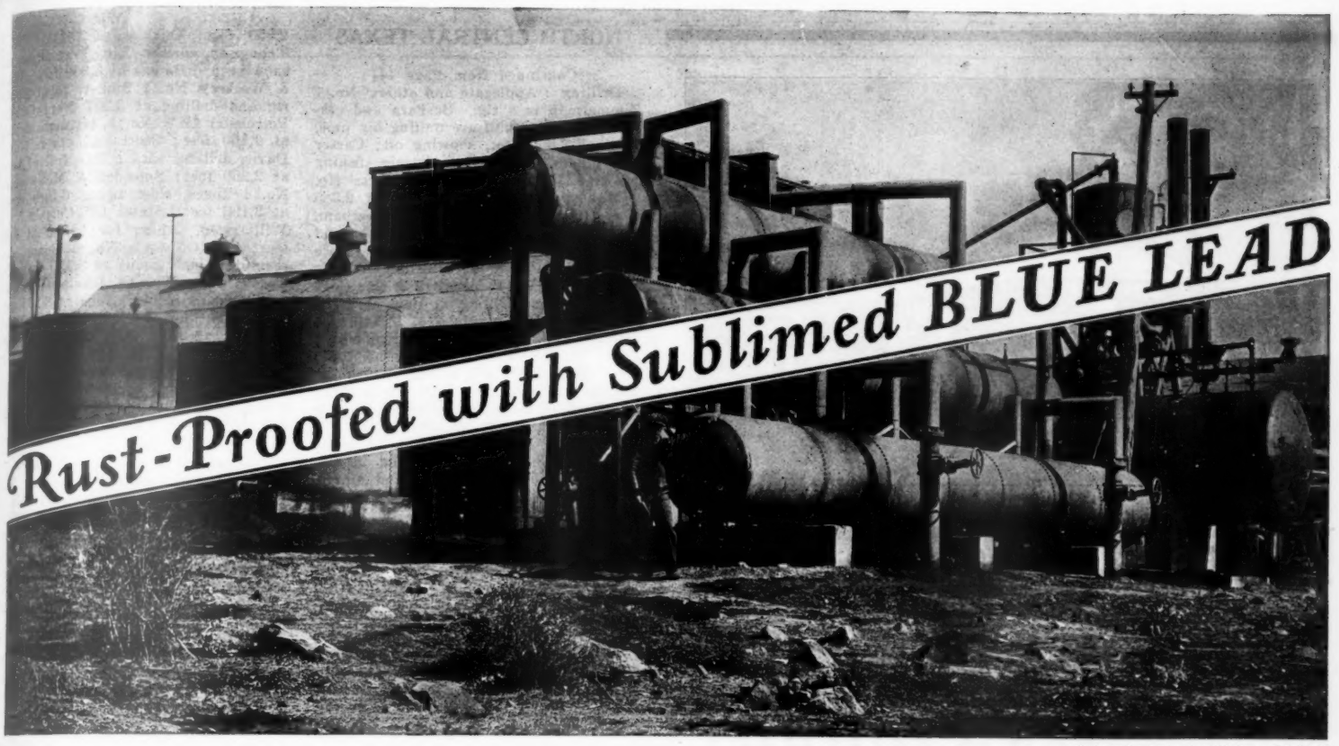
The Western Consolidated Oils, Ltd., has made a location on legal subdivision 8, Section 20-45-6w4, and has taken over the Alberta Associated heavy standard outfit in the Nanton Field, south of Calgary, for use on its test. A. H. Visser, rig builder, is now dismantling the Nanton derrick and shipping the equipment to Edmonton. The Western Consolidated location is in line with the three British Petroleum tests and three-fourths mile from British Petroleum's No. 3. The Western Consolidated directorate includes: President, Robert Spencer, Edmonton; secretary-treasurer, Dr. Harold Newman; directors, J. E. Bagley and H. A. Magoon, Edmonton, and D. Campbell, Vancouver, B. C., J. O. Williams of Calgary is geologist. The company holds 4,026 acres in the Irma-Wainwright Field.

PAN AMERICAN MARKETING

LOS ANGELES, Calif., May 15.—The Pan American Petroleum & Transport Co. has completed its $500,000 distributing plant which will serve Los Angeles and the vicinity through 25 filling stations. The new plant covers an area of 300 by 160 feet and has a private unloading track capable of handling five tank cars at one time. Twelve new tank trucks will transfer the petroleum products from the bulk station to the filling stations in the city. The plant is under the management of T. A. LaBelle, in charge of the company's sales, who has been marketing petroleum products on the Pacific Coast for the past 15 years.

PIPE LINES TO STROUD

STROUD, Okla., May 19.—Four pipe lines are being laid to the Stroud Field. The Prairie Pipe Line Co. is running a 3-inch line from its pump station in Section 30-14-8, Creek County. The Sinclair Pipe Line Co. is expected to lay a 4-inch line from its Slick station, in Township 15-10. The Ozark Pipe Line Co. is replacing its 4-inch line from Stroud to Cushing with a 6-inch line. The Oklahome Pipe Line Co. is reported surveying for its contemplated line to the area.



An Installation in the Oklahoma Oil Field

How Sublimed Blue Lead is Especially Fitted for Painting Tanks

Write for your copy of "Rust-Proofing with Sublimed Blue Lead" —a Rust-Proofing Manual

THE unit shown above is rust-proofed with Sublimed Blue Lead in Oil. In addition to its rust-inhibitive qualities as a basic lead pigment, Sublimed Blue Lead in Oil has been found to be especially fitted to the painting of oil tanks and similar structures, because of the fact that it can be effectively lightened in color if sun-proofing is also necessary. Sublimed Blue Lead is a pleasing slate gray in color. It can either be tinted a light gray blue by the addition of Eagle White Lead in Oil, or painted over with the White Lead, without impairing the rust-proofing efficiency.

Because of the ease of application and its great covering power, Sublimed Blue Lead users find that they get all the known value of a basic lead pigment for rust inhibitive painting at a cost that is far below that of any pigment of anything like equal effectiveness. The cost of rust-proofing metal surfaces with Sublimed Blue Lead in Oil, at average prices, is approximately $3.22 per thousand feet coverage. The number of painters' hours required for a given job are frequently reduced by specifying Sublimed Blue Lead in Oil.

In addition, because of the greater covering power of Sublimed Blue Lead in Oil, it will often do the work more efficiently than most pigments with fewer coats.

The durability of Sublimed Blue Lead in Oil as a long time protector of metal surfaces has been proven both in the field and in technical tests.

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Swartwout Metal Buildings for filling stations are truly a real economy. Sturdy and attractive, they make the ideal station building, not only for leased or temporary locations, but for service on permanent, busy centers.

Swartwout Buildings can be erected in one day by a man and a helper. They are light, strong, fire-safe, weather proof and rust resisting.

The Swartwout patented interlocking joint locks the sections together without bolts or other material. This ingenious design forms a rigid superstructure, eliminating a heavy structural iron frame. It is far more serviceable than the ordinary corrugated iron type of structure.

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THE SWARTWOUT COMPANY

General Offices: 18511 Euclid Ave., Cleveland, O.

Factories: Cleveland, Orrville

Swartwout Metal Buildings

With the Interlocking Joint

34

NORTH CENTRAL TEXAS

(Continued from Page 44)

Drilling : Applegate and others' No. 1 Zimmerman is a rig. Bashara and others' No. 1 Marshall are pulling big pipe, sand at 2,350 feet, showing oil; Carter and others' No. 1 Rubinkoenig, fishing job at 4,175 feet; Foster and others' No. 2 Mahoney, drilling hard rock at 2,385 feet; Haydrick and others' No. 1 Graham, drilling in rock at 2,385 feet; Henson and others' No. 1 River Bed, drilling in shale at 2,965 feet; No. 1 McMillan, drilling at 965 feet; Mid-Kansas Oil & Gas Co.'s No. 1 Gibson, drilling in lime at 4,100 feet; Miller and others' No. 1 Andrews, drilling at 425 feet; Monroe Production Co.'s No. 1 Vaughn, drilling at 1,100 feet; Mutual Oil Co.'s No. 1 Costello, drilling in shale at 2,680 feet; Nine Hundred Oil Co.'s No. 2 Benson, drilling in brown shale at 505 feet; Peter Oil Co.'s No. 6 Kemp, drilling in shale at 690 feet; No. 7 Kemp, drilling in soft rock at 1,045 feet; Russell and others' No. 1 Benson, drilling at 600 feet; Seaboard Oil & Gas Co.'s No. 5 Hughes, drilling in soft rock at 1,185 feet; Smith and others' No. 1-A Benson, drilling at 775 feet; Snider and others' No. 1 Brenizer, drilling in hard lime at 4,150 feet; States Oil Corp.'s No. 1 fee, drilling at 350 feet; Union Oil Co.'s No. 1-A Keathley, drilling in brown shale at 1,135 feet; Vance and others' No. 1 Dawes, shut down for casing at 1,420 feet;

Stephens County

Completions: The Sun Oil Co.'s No. 1 Stoker, 720 bbls. at 3,260 feet; Van Damme Oil Co.'s No. 2 Douglass, 15 bbls. at 3,322 feet; Haile and others' No. 2-B Jones, 150 bbls. at 3,180 feet; Little and others' No. 4 Drake, 200 bbls. at 3 215 feet; Moore and others' No. 3 Lee, dry at 1,720 feet; Strawn Petroleum Co.'s No. 19 Stuart, dry at 3,670 feet; Williams and others' No. 9 Rosenquest, 20 bbls. at 1,820 feet.

Drilling: Critten and others' No. 3 Cobb, spudding. Curry Petroleum Co.'s No. 1 Williamson, drilling at 450 feet; Gray and others' No. 1 Ward, drilling in lime and shale at 3,140 feet; Ivan Petroleum Co.'s No. 2 Martin, drilling at 2,300 feet; Marshbanks and others' No. 1 Hudspeth, at 350 feet; Mid-Kansas Oil & Gas Co.'s No. 12 Hill, at 1,525 feet; No. 13 Hill, at 995 feet; No. 5 Hill, drilling in brown shale at 1,550 feet; No. 2 Lee, drilling in rock at 650 feet; No. 3 Richardson, drilling by casing at 3,185 feet; Moore and others' No. 1 Williams, running 6-inch casing at 2,455 feet; Pierce and others' No. 1 Crudington, drilling in blue shale at 2,640 feet; Prairie Oil & Gas Co.'s No. 15 Atkins, drilling by tools at 3,265 feet; Raney and others' No. 1 Hamil, running 10-inch casing at 1,455 feet; Raney Buckeye Oil Co.'s No. 2 Walker & Caldwell, underreaming 6-inch casing at 3,140 feet; Republic Producing Co.'s No. 5 Knox, drilling in soft rock at 1,940 feet; Rochelle and others' No. 1 Echols drilling at 960 feet; The Texas Co.'s No. 20 Black, at 930 feet; Texas Consolidated Oil Co.'s No. 2 Martin, drilling in lime at 3,360 feet; Texas Pacific Coal & Oil Co.'s No. 3 Rogers, drilling by 8-inch casing at 2,334 feet; Baker and others' No. 1 Crowley, drilling in brown shale at 900 feet; Brown & Co.'s No. 4 Brown, fishing job at 3,205 feet; Buckeye Development Co.'s No. 8 Walker, fishing for casing at 2,086 feet; Corts and others' No. 1 Parks, drilling at 3,990 feet; Empire Gas & Fuel Co.'s No. 7 Wallace, at 450 feet; Foster and others' No. 2 Gardner, pulling 5-inch casing at 3,225 feet; Haile and others' No. 5 Jones, fishing for casing at 3,100 feet; Humble Oil & Refining Co.'s No. 2 Jones, drilling without any oil showing at 3,425 feet; No. 7 Jones, drilling with a hole full of water at 2,900 feet; Lewis Oil Co.'s No. 2 Stoker, fishing for 5-inch casing at 3,244 feet; Lone Star Gas Co.'s No. 20 Warren, drilling in shale at 800 feet; Magnolia Petroleum Co.'s No. 1 Gardner, drilling in lime at 3,240 feet; Montreal Oil Co.'s No. 4 Henderson, drilling at 2,350 feet; Oakwood Oil Co.'s No. 1 Thompson, drilling in gray lime and showing a little gas at 3,300 feet; Pitzer & Walker's No. 1 Stoker, repairing the rig and drilling at 3,207 feet; Quakina Petroleum Co.'s No. 9 Harmon, drilling at 1,100 feet; Scott and others' No. 1 Davis, drilling with a hole full of water at 2,260 feet; Snowden & McSweency's No. 1 Jones, sidereaming 6-inch casing at 3,196 feet; States Oil Corp.'s No. 1 Williamson, fishing for bailer at 1,055 feet; Sun Oil Co.'s No. 2 Boone, sidereaming 6-inch casing at 3,195 feet; The Texas Co.'s No. 14 Gholson, running 6-inch casing in black lime at 3,165 feet; No. 9 Keathley, drilling with a hole full of water at 2,150 feet; No. 32-A Parks, showing oil and drilling in gray lime at 3,190 feet; No. 39-A Parks, drilling at 2,040 feet; Texas Pacific Coal & Oil Co.'s No. 4-A Gardenshire, showing oil and gas and will shoot a sand at 2,080 feet.

Eastland County

Completions: Harrell and others' No. 1 Shugart, 20 bbls. at 2,860 feet; Kirk & Brewer's No. 4 Shugart, 30 bbls. at 2,840 feet; Mook Texas Oil Co.'s No. 2 Sibley, dry at 3,305 feet; Panhandle Oil & Refining Co.'s No. 15 Hightower, 15 bbls. at 1,215 feet; Rosenfield and others' No. 4 Gilbert, dry at 500 feet; The Texas Co.'s No. 9 Hightower, 30 bbls. at 1,225 feet.

Drilling: Barkley and others' No. 5 Wright, drilling in blue shale at 1,590 feet; Buffington and others' No. 1 Foster, drilling at 200 feet; Dorothy Oil Co.'s No. 2 Brelsford, drilling in brown shale at 1,000 feet; Gallager and others' No. 1 Graham, set 6⅝-inch casing and are drilling at 2,815 feet; Gholson and others' No. 4 Shugart, drilling in soft rock at 2,010 feet; No. 6 Shugart, drilling at 950 feet; Magnolia Petroleum Co.'s No. 3 Edison, drilling at 200 feet; No. 16 Westmoreland, drilling in brown shale at 2,150 feet; Mid-Kansas Oil & Gas Co.'s No. 5 Anderson, drilling in rock at 1,815 feet; Panhandle Oil & Refining Co.'s No. 17 Hightower, drilling at 1,100 feet; Page and others' No. 1 Lyerla, drilling at 1,100 feet; Shannon and others' No. 3 Neil, drilling at 200 feet; Spiney and others' No. 1 Edmonson, drilling in rock at 350 feet; Dixie Co.'s No. 1 Waggoner, drilling at 300 feet; Ball and others' No. 1 Qualls, drilling at 300 feet; Clayton and others' No. 1 Amis, drilling in shale at 2,000 feet; Daugherty and others' No. 1 Johnson, cleaning out at 3,645 feet; Dixie Oil Co.'s No. 1 Connelley, drilling in lime at 3,160 feet; Rosenfield and others' No. 1 Burnett, drilling in blue shale at 2,700 feet; States Oil Corp. No. 4 Hise, drilling in rock at 600 feet.

Wildcats

Shackelford County — Completions: Donnelly Brothers' No. 1 Brooks, 700 bbls. at 3,580 feet.

Drilling: Illsing and others' No. 1 Poindexter, underreaming casing at 1,330 feet; Landreth Oil Co.'s No. 1-B Poindexter, showing oil and gas in gray lime and drilling at 3,600 feet; Magnolia Petroleum Co.'s No. 3 George, drilling with hole full of water at 3,220 feet; Sarver and others' No. 1 Elliott, drilling shale at 2,600 feet.

Palo Pinto County — Completions: Hess and others' No. 1 Crocker, dry at 3,705 feet; Herbert and others' No. 1 Parker, dry at 300 feet.

Drilling: Cogwell and others' No. 1 Wall, drilling at 440 feet; Upham Gas Co.'s No. 1 Upham, drilling in shale at 1,160 feet; Moore & Snebold's No. 2 Boles, drilling in lime at 3,390 feet; Phillips and others' No. 1 Caudill, drilling in hard rock formations at 3,250 feet; Upham Gas Co.'s No. 4 Watson, cleaning out after a shot and showing oil and gas at 3,490 feet.

Parker County—Completions: Tolbert and others' No. 1 Gilbert, dry at 3,580 feet; Upham Gas Co.'s No. 13 Martin, dry at 2,375 feet; same company's No. 1 Byrd, dry at 1,400 feet; same company's No. 3 Moran, dry at 1,280 feet.

Callahan County—Completions: Junior Oil Co.'s No. 1 Surles, dry at 1,810 feet;

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The Barnsdall Refining Company has adopted The Sharples Process.

The plant is being installed at the company's refinery in Barnsdall, Oklahoma. It is to be utilized for the dewaxing of a long residuum. It replaces a cold settling plant.

Sharples-made lubricants are from paraffin bearing crudes. Their pour point ranges from 25° F. down.

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Bunker Oils	Pale Oils
Diesel Fuels	Red Oils
Signal Oils	Black Oils
Miners Oil	Floor Oils
Gas Oil	Paraffin Oils
Distillates	Wax Oil Stock
Spindle Oils	Waxes
Motor Oils	Oil Soap
Engine Oils	Asphalts
Dynamo Oils	Road Oils
Machine Oils	Asphalt Cement
Cylinder Oils	Pipe Coating
Cylinder Stocks	Roofing
Car Oils	Roofing Paper
Greases	Roofing Cement
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Moore and others' No. 1 Anderson, 125 bbls. at 2,535 feet; Seaboard Oil & Gas Co.'s No. 1 Isenhour, 20 bbls. at 1,770 feet.

Drilling: Dutton and others' No. 1 Harrel, drilling at 325 feet; McBride and others' No. 1 Isenhour, showing 2,000,000 feet of gas and some oil at 435 feet; Moore and others' No. 5 Ackers, drilling at 1,900 feet; No. 2 Anderson, drilling at 880 feet; Poe & Wilson's No. 5 Albin, drilling at 1,725 feet; No. 3 Bryson, drilling at 1,200 feet; Sherwin and others' No. 2 Cathey, drilling at 350 feet; Tidal Oil Co.'s No. 1 Cathey, drilling at 1,055 feet; No. 2 Cathey, drilling in brown shale at 1,200 feet.

Mitchell County—Drilling: Sloan and others' No. 3 Smart, drilling just above production depth at 2,965 feet. No. 4 Smart drilling in shale at 2,800 feet; No. 4 Smart, drilling in blue shale at 2,800 feet. No. 5 Morrison, drilling in rock at 2,305 feet; California Co.'s No. 1 Morrison, drilling without any oil showing at 4,615 feet; No. 1 Butler, drilling and showing 15 bbls. of ail and some water at 3,285 feet.

Brown County—Driling: Brownwood Production & Refining Co.'s No. 9 Williams, drilling at 800 feet; Canyon Oil & Gas Co.'s No. 3 McDonough, showing a little oil after a shot at 1,330 feet; Honea and others' No. 2 DeBusk, drilling in blue shale at 1,460 feet; Infield Petroleum Co.'s No. 5 Windham, drilling at 1,200 feet.

Comanche County—Drilling: Ghormley and others' No. 1 Moorman, drilling at 1,400 feet; Gallagher's No. 1 Mauncy, drilling at 860 feet.

Runnels County—Completions: Big Lake Oil Co.'s No. 4 University, 200 bbls. at 3,066 feet; same company's No. 5 University, 140 bbls. at 2,970 feet.

Drilling: Big Lake Oil Co.'s No. 6 University, will probably be abandoned at 3,320 feet; No. 7 University, hole full of water, probably be abandoned at 3,215 feet; No. 8 University, fishing for pipe at 2,625 feet; Mid-Kansas Oil & Gas Co.'s No. 1 MacIntosh, drilling in rock at 1,900 feet; Texas Pacific Coal & Oil Co.'s No. 1 Walters, drilling at 1,760 feet.

Baylor County: Completions—Cochran and others' No. 1 Stephens, dry at 2,003 feet.

Drilling—Hapgood and others' No. 1 Turbeville, drilling at 945 feet; Magnolia Petroleum Co.'s No. 1 Mills, drilling at 780 feet; Staley and others' No. 1 Parker, derrick; Sunshine State Oil & Refining Co.'s No. 1 Mrs. Wallace, drilling in rock at 1,625 feet; Sun Oil Co.'s No. 1 Mills, rig. Wurts and others' No. 1 Porter, drilling at 1,710 feet.

Clay County. Completions — Kimbrough and others' No. 1 Hansard, dry at 1,332 feet; Manky and others' No. 1 Hunt, dry at 2,007 feet.

Foard County: Drilling—Landreth Production Co.'s No. 1 Halsell, drilling in rock at 1,620 feet.

Montague County: Drilling—Gulf Production Co.'s No. 1 Benton, fishing job at 3,533 feet; Lesh and others' No. 1 Wilson, setting 6⅝-inch casing at 2,305 feet; Mascho Oil Co.'s No. 1 Howard, underreaming 6⅝-inch casing at 3,340 feet.

Throckmorton County: Drilling—Devine and others' No. 1 Richardson, drilling at 460 feet; Graves and others' No. 1 Raynolds, drilling at 440 feet; Hale Tex Oil Co.'s No. 1 Lee, underreaming 8¼-inch casing at 832 feet; Larkin and others' No. 1 Conger, drilling in gumbo at 300 feet; Whatley and others' No. 1 Parrot, fishing job at 310 feet; Whitney and others' No. 1 Chandler, drilling in shale at 1,325 feet.

Wilbarger County: Drilling—Dyson Syndicate's No. 6 Waggoner, drilling in soft rock at 1,380 feet; Church and others' No. 1 Dill, drilling at 985 feet; Magnolia Petroleum Co.'s No. 44 Piper, rigging to pump and test oil sand at 1,790 feet; Matlock and others' No. 1 Waggoner, drilling in shale at 2,100 feet; South Vernon Oil Co.'s No. 1 Richardson, drilling at 1,105 feet; Texas Pacific Coal & Oil Co.'s No. 1 Smith, drilling in rock at 1,600 feet.

Carson County: Drilling—The Texas Co.'s Nos. 1 and 3 Burnett, no report. No. 2 Burnett, running 10-inch casing at 1,875 feet; American Refining Co.'s No. 1 Burnett, cleaning out at 1,970 feet; No. 2 Burnett, straightening hole at 150 feet; Gulf Production Co.'s No. 4 Burnett, drilling at 250 feet; Silk and others' No. 3 Burnett, fishing for drill stem at 2,905 feet; Waggoner and others' No. 1 McConnell, drilling at 3,105 feet.

Garza County: Drilling—Blackwell and others' No. 5 Boren, drilling at 500 feet.

Gray County: Drilling—Holmes and others' No. 1 Morris, drilling in shale at 2,355 feet; Wilcox Oil Co.'s No. 1 Combs, drilling in lime shells at 2,080 feet; Texas Co.'s No. 1 Saunders, drilling in hard red sand at 2,665 feet.

Hutchinson County: Drilling—Humphries Oil Co.'s No. 1 Johnson, drilling by whipstock at 2,585 feet; Montgomery and others' No. 1 Johnson, showing 2,000,000 feet of gas at 2,530 feet; McGee and others' No. 1 Smith Capers, fishing for bailer at 2,175 feet; Plains Oil Co.'s No. 1 Weatherly, cleaning out at 3,270 feet; Watchorn Oil Co.'s No. 1-A Cable, underreaming pipe, water sand at 3,100 feet; Wilson and others' No. 1 Johnson, drilling at 1,100 feet.

Potter County: Drilling—Producers & Refiners Oil Co.'s No. 1-A Bivens, pulling 5⅞-inch casing at 3,262 feet; No. 2-A Bivens, fishing for tools at 2,560 feet.

Moore County: Drilling—Producers and Refiners Oil Co.'s No. 1 Master, underreaming 10 inch casing at 1,900 feet.

PRODUCTION REPORT
Week Ending May 15, 1924

Burkburnett

American Refining Co.	190
Barkley & Meadows	1,455
Humble Oil & Ref. Co.	565
Gulf Production Co.	1,270
Magnolia Petroleum Co.	3,415
McMahon Oil Co.	450
Panhandle Refining Co.	405
Sinclair Oil & Gas Co.	75
The Texas Co.	630
Texhoma Oil & Ref. Co.	500
Miscellaneous	12,000
Total	20,955

Electra

Empire Gas & Fuel Co.	1,160
Humble Oil & Ref. Co.	240
Griswold Oil Co.	330
Gulf Production Co.	940
Magnolia Petroleum Co.	4,550
McMahon Oil Co.	200
Panhandle Refining Co.	35
The Texas Co.	4,465
Texhoma Oil & Ref. Co.	1,975
Miscellaneous	5,900
Total	19,875

Iowa Park, Etc.

American Refining Co.	25
Griswold Oil Co.	25
Gulf Production Co.	45
Panhandle Oil & Ref. Co.	55
Texhoma Oil & Ref. Co.	105
Miscellaneous	2,100
Archer County—	
American Refining Co.	190
Empire Gas & Fuel Co.	1,250
Griswold Oil Co.	1,545
Gulf Production Co.	200
Humble Oil & Ref. Co.	190
Panhandle Oil & Ref. Co.	50
Prairie Oil & Gas Co.	2,710
The Texas Co.	1,085
Texhoma Oil & Ref. Co.	2,250
Miscellaneous	22,615
Petrolia—	
Gulf Production Co.	65
Magnolia Petroleum Co.	40
The Texas Co.	90
Miscellaneous	110
Total	34,945

Stephens County

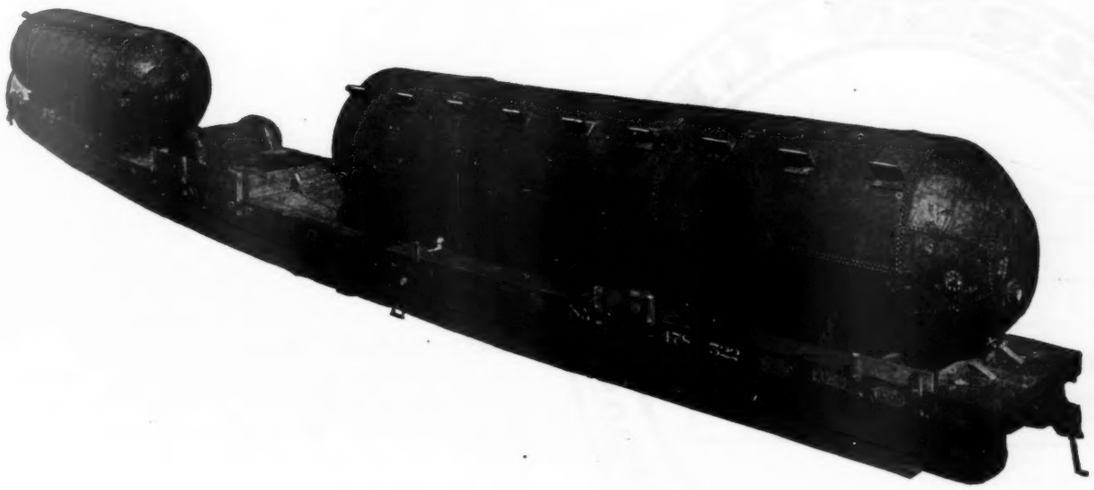
Empire Gas & Fuel Co.	110
Gulf Production Co.	1,640
Humble Oil & Ref. Co.	1,680
Magnolia Petroleum Co.	1,120
Mid-Kansas Oil & Gas Co.	1,885
Prairie Oil & Gas Co.	920
Sinclair Oil Co.	275
The Sun Co.	995
The Texas Co.	2,510
Texas Pacific Coal & Oil Co.	1,565
Miscellaneous	9,680
Total	22,380

Eastland County

Gulf Production Co.	535
Humble Oil & Ref. Co.	110
Magnolia Petroleum Co.	560
Panhandle Refining Co.	760
Prairie Oil & Gas Co.	700
Sinclair Oil Co.	600
The Texas Co.	490
Texas Pacific Coal & Oil Co.	900
Miscellaneous	3,140
Total	7,795

Other Fields

Strawn—	
Texas Pacific Coal & Oil Co.	430
Miscellaneous	695



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The same characteristics that have made P. I. W. 55's and 80's famous throughout the oil fields mark its smaller shop assembling.

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Warren, Ohio

Moran—	
Empire Gas & Fuel Co.	110
Humble Oil & Ref. Co.	495
The Texas Co.	180
Texhoma Oil & Ref. Co.	195
Miscellaneous	2,515
Coleman County—	
Miscellaneous	140
Brown County—	
Miscellaneous	275
Comanche-Eastland—	
Humble Oil & Ref. Co.	245
Magnolia Petroleum Co.	1,070
Prairie Oil & Gas Co.	210
Sinclair Oil & Gas Co.	50
The Texas Co.	240
Texas Pacific Coal & Oil Co.	190
Miscellaneous	5,920
Young County—	
Gulf Production Co.	105
Sinclair Oil & Gas Co.	500
Panhandle Refining Co.	330
The Texas Co.	110
Miscellaneous	3,525
Reagan County	365
Jack County	35
Scurry County	25
Carson County	595
Hutchinson County	30
Mitchell County	1,135
Total	19,855
Total this week	127,665
Total last week	125,260
Gain	2,405

EAST CENTRAL TEXAS

(Continued from Page 44)

5,412 bbls. from 21 wells. None of the other companies in the field had more than 5,000 bbls. a day. The production by company and lease shows the following results:

Production of the Powell, Tex., Field by Company and Lease as of May 10, 1924

Lease—	No. wells.	Daily Prodn. Bbls.
Humble Oil & Ref. Co.—		
21 lease	195	36,985
Tidal Oil Co.—		
Ballard	2	40
Wheeler	9	912
Brassie	11	904
Phillips	1	45
Brooks	12	892
Ramsey A	12	895
Ramsey B	7	165
Cerf	9	1,210
Lovett	7	560
Ramsey C	6	190
Thompson	3	22
Crews	2	315
Total	81	6,150
Gulf Production Co.—		
Barron	7	220
Barry	..	...
Blumrosen	4	95
Bush	5	1,112
Christian	6	200
Crews	21	6,956
Gentry	7	244
Sprinkler	10	1,017
McKie	2	935
Smith	6	90
Witherspoon	9	115
Total	75	10,904
Pure Oil Co.—		
Fair	1	10
Kent	3	17
R. I. Kent	8	120
Burke	63	9,632
Total	75	9,779
U. S. Tex Oil Co.:		
Burke	4	326
Ramsey	4	50
Total	8	376
Skelly Oil Co.:		
Gentry	1	15
Ramsey	4	60
Carrol	8	2,440
Total	13	2,515
Kirby Pet. Co.:		
Fleming	2	216
Brown	6	62
McKie	4	640
Total	12	918
McMan Oil Co.:		
Chapman A	7	990
Chapman B	14	1,582
Witherspoon	2	160
Total	23	2,732
Roxana Pet. Corp.:		
Blumrosen	4	96
McKie	8	376
McKie A	8	2,860
Total	20	3,332
The Texas Co.:		
Fleming	12	1,670
Texas & Magnolia Co.:		
McKie	8	428
Kent	18	2,190
Total	38	4,288
Atlantic Oil Prod. Co.:		
Irvine B	13	1,470
Kellum	11	4,354
Cunningham	1	84
Total	25	5,908
Simms Oil Co.:		
H. P. Boyd	4	1,090
R. H. Boyd	2	1,245
Blumrosen	2	65
McKellum	5	665
Rose	8	2,387
Total	21	5,412
J. K. Hughes Dev.:		
Alexander	9	3,476
McKie	13	120
Total	22	2,596
The Sun Co.:		
Kent	4	640
Barron	1	10
Springfield	1	20
Total	6	670
Farish, Watts, Collins & Crosby:		
Cerf A	3	790
Cerf B	3	30
Right of Way	3	195
Total	9	1,015
Corsicana O. & R. Co.:		
Kenner	2	9
Burke	1	9
Springfield	2	60
Total	5	78
Cosden Oil & Gas:		
Springfield	2	270
Cross Ref. Co.:		
Humphrey	2	460
Mutual Oil Co.:		
Howell	8	3,284
Elliott and others:		
Hill	3	214
T. & B. V. Ry.:		
Right of Way	2	242
Barclay & Meadors:		
Cerf	3	470
Galloway Oil Co.:		
Gentry	3	630
Mills Bennett:		
Woolens	2	2,675
John Hoosier:		
Humble fee	3	2,856
Hoosier & Thompson:		
Humble fee	1	200
Roberts and others:		
Hill	1	485
E. L. Smith Oil Co.:		
Cerf	3	760
Mitchell & Jones:		
Burke	2	190
New Domain Oil Co.:		
R. F. Kent	6	85
Witherspoon Oil Co.:		
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Garland Kent:		
Fleming	19	3,672
Grand total	694	110,095

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Pure Oil Co.'s No. 63, McKie, sand at 1,450 to 1,500 feet, 16 bbls.

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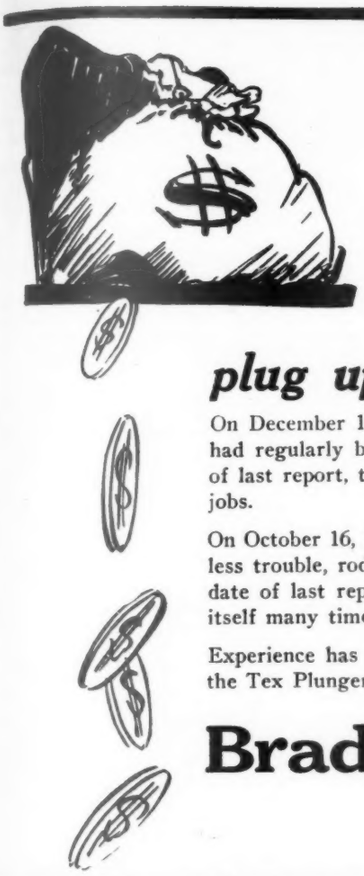
Farrish, Watts & Collins' No. 3-B



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1—Will pump floating sand
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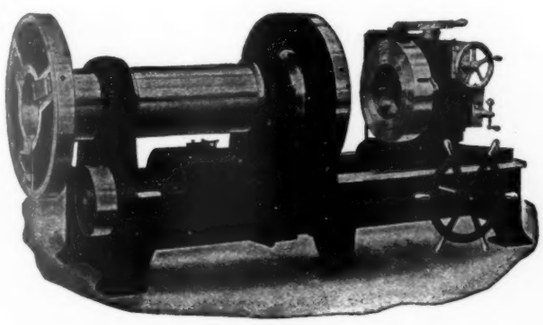
7—Eliminates frequent rod pulling.

Bradford Motor Works

Bradford, Penna.

Branch Factory and Warehouse: Tulsa, Okla.

PEERLESS B&K DUPLEX P.D.C



Seven O'clock Starting Time

Can you start your pipe machine at the starting time without a lot of adjusting and getting ready? Can you keep it going until quitting time? To be a profitable machine, it must be a producer of threads. Continuous performance is what you want.

B & K machines have the strength and bigness you will like in a pipe machine.

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EDWARDSVILLE, ILL.

for 30 years the Seal of Satisfaction on Tanks and Refineries.....

The Warren City Tank & Boiler Co.
Warren, Ohio

Moran—		
Empire Gas & Fuel Co.	110	
Humble Oil & Ref. Co.	495	
The Texas Co.	180	
Texhoma Oil & Ref. Co.	195	
Miscellaneous	2,515	
Coleman County—		
Miscellaneous	140	
Brown County—		
Miscellaneous	275	
Comanche-Eastland—		
Humble Oil & Ref. Co.	245	
Magnolia Petroleum Co.	1,070	
Prairie Oil & Gas Co.	210	
Sinclair Oil & Gas Co.	50	
The Texas Co.	240	
Texas Pacific Coal & Oil Co.	190	
Miscellaneous	5,920	
Young County—		
Gulf Production Co.	105	
Sinclair Oil & Gas Co.	600	
Panhandle Refining Co.	330	
The Texas Co.	110	
Miscellaneous	3,525	
Reagan County	365	
Jack County	35	
Scurry County	25	
Carson County	595	
Hutchinson County	30	
Mitchell County	1,135	
Total		19,855
Total this week		127,665
Total last week		125,260
Gain		2,405

EAST CENTRAL TEXAS

(Continued from Page 44)

5,412 bbls. from 21 wells. None of the other companies in the field had more than 5,000 bbls. a day. The production by company and lease shows the following results:

Production of the Powell, Tex., Field by Company and Lease as of May 10, 1924

Lease—	No. wells.	Daily Prodn. Bbls.
Humble Oil & Ref. Co.—		
21 lease	195	36,985
Tidal Oil Co.—		
Ballard	2	40
Wheeler	9	912
Brassie	11	904
Phillips	1	45
Brooks	12	892
Ramsey A	12	895
Ramsey B	7	165
Cerf	9	1,210
Lovett	7	560
Ramsey C	6	190
Thompson	3	22
Crews	2	315
Total	81	6,150
Gulf Production Co.—		
Barron	7	220
Barry	..	...
Blumrosen	4	95
Bush	5	1,112
Christian	6	200
Crews	21	6,956
Gentry	7	244
Sprinkler	10	1,017
McKie	2	935
Smith	6	90
Witherspoon	9	115
Total	75	10,904
Pure Oil Co.—		
Fair	1	10
Kent	3	17
R. I. Kent	8	120
Burke	63	9,632
Total	75	9,779
U. S. Tex Oil Co.:		
Burke	4	326
Ramsey	4	50
Total	8	376
Skelly Oil Co.:		
Gentry	1	15
Ramsey	4	60
Carrol	8	2,440
Total	13	2,515
Kirby Pet. Co.:		
Fleming	2	216
Brown	6	62
McKie	4	640
Total	12	918
McMan Oil Co.:		
Chapman A	7	990
Chapman B	14	1,582
Witherspoon	2	160
Total	23	2,732
Roxana Pet. Corp.:		
Blumrosen	4	96
McKie	8	376
McKie A	8	2,860
Total	20	3,332
The Texas Co.:		
Fleming	12	1,670
Texas & Magnolia Co.:		
McKie	8	428
Kent	18	2,190
Total	38	4,288
Atlantic Oil Prod. Co.:		
Irvine B	13	1,470
Kellum	11	4,354
Cunningham	1	84
Total	25	5,908
Simms Oil Co.:		
H. P. Boyd	4	1,090
R. H. Boyd	2	1,245
Blumrosen	2	65
McKellum	5	665
Rose	8	2,387
Total	21	5,412
J. K. Hughes Dev.:		
Alexander	9	2,472
McKie	13	130
Total	22	2,593
The Sun Co.:		
Kent	4	640
Barron	1	18
Springfield	1	20
Total	6	678
Farish, Watts, Collins & Crosby:		
Cerf A	3	720
Cerf B	3	30
Right of Way	3	195
Total	9	1,015
Corsicana O. & R. Co.:		
Kenner	2	9
Burke	1	9
Springfield	2	60
Total	5	78
Cosden Oil & Gas:		
Springfield	2	270
Cross Ref. Co.:		
Humphrey	2	460
Mutual Oil Co.:		
Howell	8	3,334
Elliott and others:		
Hill	3	214
T. & B. V. Ry.:		
Right of Way	2	342
Barclay & Meadors:		
Cerf	3	470
Galloway Oil Co.:		
Gentry	3	630
Mills Bennett:		
Woolens	2	2,475
John Hoosier:		
Humble fee	3	2,856
Hoosier & Thompson:		
Humble fee	1	300
Roberts and others:		
Hill	1	465
E. L. Smith Oil Co.:		
Cerf	3	760
Mitchell & Jones:		
Burke	2	190
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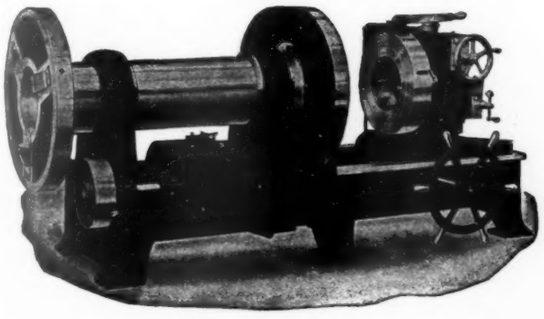

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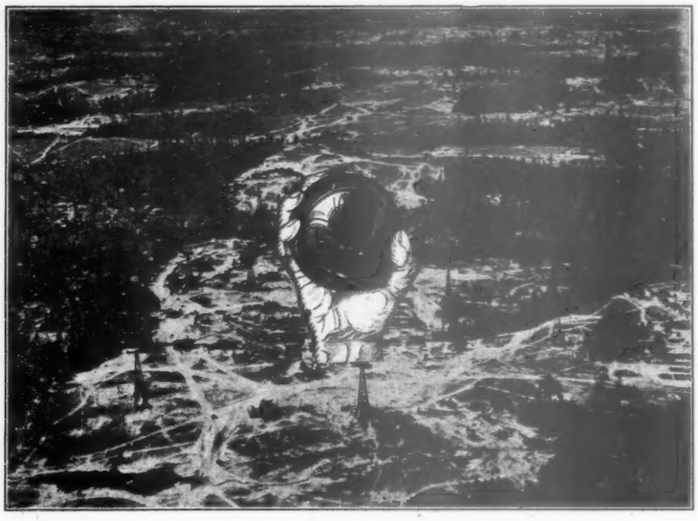

Continuous Operation Insured With Atlas Valve Balls

HAVE you ever figured what it costs to renew the steel balls in your working barrel valves? The actual cost of the balls is a very small item compared to the labor and expense involved in taking down rigs to replace broken and cracked balls and the consequent loss of production.

You can secure better service, continuous operation and freedom from frequent and expensive shutdowns by equipping your working barrels with Atlas Valve Balls. They stay on the job under the gruelling conditions of oil fields because—they possess the strength to withstand loads far in excess of those met in actual service.

Atlas Valve Balls installed in working barrels over a year ago are still going strong today and have reduced the problem of maintenance to a minimum. You can get them at your supply house or write direct to—

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Cerf, Smith, sand at 2,907-45 feet, 125 bbls.

Gulf Production Co.'s No. 5 Bush, Smith survey, sand at 2,855 to 2,950 feet, swabbing 300 bbls.

Humble Oil & Refining Co.'s No. 19-B Ramsey, Smith survey, top of sand at 2,848 feet, total depth 2,930 feet; pumping 150 bbls.

John Hooser's No. 5-A Hill, Smith survey, dry and abandoned at 3,010 feet, no sand; No. 6-A Hill, abandoned at 3,005 feet after bailing dry; No. 7-A Hill, abandoned at 3,010 feet, no sand. These tests are near the Hooser's gushers.

Parker and others' No. 1 Alexander, Smith survey, top of sand at 2,987 feet, bailed dry at 2,995 feet, abandoned at 3,000 feet; No. 2 Alexander, abandoned at 3,015 feet, no sand; No. 3, a derrick, location abandoned.

Pure Oil Co.'s No. 2 Fleming 4½ acres, swabbing 250 bbls., total depth, 2,945 feet.

Showers & Peacock's No. 1 Hill, Greer survey, tested salt water, abandoned as dry, sand at 2,801-2,997 feet; same operator's No. 2 Hill, abandoned as dry at 3,030 feet.

Simms Oil Co.'s No. 1 Hill, sand at 2,950-96 feet, preparing to pump. Gulf Production Co.'s No. 20 Crews, Harris survey, sand at 2,897 to 2,980 feet, swabbed 220 bbls. in 8 hours.

McIntyre and others' No. 1 Boyd, Bragg survey, abandoned as dry, sand at 2,988 to 3,014 feet.

Simms Oil Co.'s No. 6 Boyd, Meador survey, salt water at 3,004 feet, abandoned; same company's No. 7 Boyd, abandoned at 1,230 feet.

Tidal Oil Co.'s No. 3 Bressie, Bragg survey, pumping 30 bbls. a day.

Simms Oil Co.'s No. 11 Rose, Harris survey, top of the sand 2,855 feet, total depth 2,985 feet, 3,000 bbls., 3 per cent water.

The operations in the Powell Field proper at the close of this review included 11 derricks, some of them rigged up and 40 drilling wells, most of them ready for completion or close to sand depth. Two weeks' time could clean up all the operations in the field that are already under way. Some new work has been started since the last report, including Roxana Petroleum Corp.'s No. 10-A McKie, rotary rigged up; Pure Oil Co.'s No. 65 McKie, derrick; No. 64 McKie, drilling below 1,860 feet; Lambert and others' No. 1 Woolens, Smith survey, drilling below 2,820 feet; E. L. Smith Oil Co.'s No. 5 Cerf, derrick; Sims Oil Co.'s No. 13 Harris, rotary rigged up; Tidal Oil Co.'s No. 4 Bressie, rotary rigged up.

Richland District

The Richland district has supplanted Powell in interest recently. No big wells have yet been found in that field, which lies southwest of the Powell Field, but the wells have thus far held up very satisfactorily.

The Godley Oil Co.'s No. 2 Allison, on the White (upper) survey, started off at 450 bbls. from sand at 2,940-70 feet.

The Boyd Oil Co. was coring at 2,997 feet in No. 1 Allison, White (upper) survey. Collins and others are drilling below 2,350 feet in No. 1 Fishing Club, E. Esslick and others' No. 1 Moran, was at a total depth of 2,750 feet; Langley and others' No. 2 Swink was drilling below 2,010 feet. Moore & Hamill were getting ready to start No. 1 A. N. Brown; McDonald and others were below 2,700 feet in No. 3 Brown and have a derrick up for No. 4. McDonald and others were coring sand at 3,000 to 3,004 feet in No. 1 C. H. Graves and drilling below 2,720 feet in No. 1 S. T. Green; R. Smith and others' No. 1 Green is drilling at 1,420 feet; the Boyd Oil Co.'s No. 1 Webb set 6⅝-inch pipe at 2,898 feet. All the wells mentioned are on the White upper survey.

The Hallmark Oil Co. has a derrick up for No. 1 Doctor Brown, on the White survey and is drilling No. 1 Webb, White upper survey, below 1,850 feet, and had a derrick up for No. 4 Webb. Miller Lewis tested salt water at 3,093 feet and shut down for orders in No. 1 H. A. Swink. McDonald and others' No. 2 Brown was fishing for liner at 2,902 feet. The Sun Oil Co. spudded in No. 2 W. F. Brown, Travis and others' No. 1 H. A. Swink was at 2,932 feet with 6⅝-inch pipe set and was drilling at 1,230 feet in No. 2.

Miller Lewis was shut down at 3,050 feet in No. 1 H. A. Swink. G. Moore had a rotary rigged up for No. 1 Hilburn.

MEXICAN FIELDS

(Continued from Page 48)

is drilling at 1,175 feet in the San Felipe, No. 57, Lot 2, cemented 10-inch in the San Felipe at 1,300 feet.

Old Sectors

In the older sectors of the Panuco Field, drilling operations follow: La Corona Petroleum Co.'s No. 85 Delicias is drilling in lime at 2,117 feet; La Espuela Oil Co.'s No. 3, Lot 11 Isleta, is drilling in shale at 460 feet. East Coast Oil Co.'s No. 34 Ingenio is drilling in gray shale at 1,385 feet. Ita Mex Oil Co.'s No. 12 Tamismolon is drilling in gray shale at 2,000 feet. International Petroleum Co.'s No. 21 Tanchicuin is drilling in shale at 1,090 feet. Mexican Sinclair Petroleum Corp.'s No. 2, Lot 7 La Canoa, is running 8-inch in gray lime at 1,197 feet.

In the Paciencia, north of Cacalilao, Transcontinental Petroleum Co.'s No. 4 is drilling slowly at 1,540 feet, in a lime, with a showing of some 300 bbls. now, after having been a big dry gasser for some two months, gas pocket having been penetrated at 1,440 feet. It has all the earmarks of a good well. This is Penn Mex Fuel Co.'s property, the Transcontinental exploring it for the latter under a drilling agreement. No. 6 there is drilling at 490 feet in shale.

South Fields

In the South fields, Huasteca Petroleum Co.'s (Mexican Petroleum), operations in Cerro Azul follow: No. 39 is drilling in gray shale at 1,615 feet; No. 41, in the same formation at 1,766 feet; No. 42, in brown shale at 1,270 feet; No. 43 and No. 44, both in blue shale at 310 and 245 feet respectively. Down in Tierra Blanca, Huasteca's No. 25 is drilling in blue shale at 2,160 feet. In Laguna de Tamiahua, Cias. del Agwi's No. 2 is fishing again at 3,628 feet in a conglomerate. Over in Comales, La Corona Petroleum Co.'s deep test, No. 1, Lot 30 is re-running the tools to carry the hole on down from 4,880 feet, where it tested a small showing in a sandy lime. Its No. 1 San Isidro, south of the Tuxpam River, continues reaming to carry casing to the bottom, 2,635 feet. Cortez Oil Corp.'s No. 8 Aguada is drilling in gray sandy lime at 2,276 feet. International Petroleum Co.'s No. 3 San Miguel, south of the Tuxpam River, is fishing for tools at 3,122 feet in lime. Up in Toteco, International's No. 22-A is drilling in brown lime at 2,545 feet, and No. 45, same, is running 4-inch at 1,666 feet, in lime, preparatory to drilling in. Mexican Gulf Oil Co.'s No. 51 Toteco cemented 10-inch in gray lime at 1,700 feet; No. 37, Lot 190 Amatlan, is preparing to cement 8-inch at 1,910 feet in gray lime. Penn Mex Fuel Co.'s No. 25 Alamo had the Tamasopa at 2,090 feet, and cemented 8-inch there; No. 26, same, cemented 10-inch in the San Felipe lime at 1,940 feet. Mexican Eagle Oil Co.'s deep Los Naranjos test, No. 24, Lot 132 Amatlan, is drilling in brown lime at 4,189 feet.

Topila and Miscellaneous

In the Topila Pool, Cia. Credito Petrolero, No. 4, Lot 6 Paciencia de Aguacate, is rigging. Cortez Oil Corp.'s No. 6, Lot 58 Lagartero, is drilling in the San Felipe at 3,075 feet. Ita Mex Oil Co.'s No. 1 Tobalo is drilling in the San Felipe at 2,260 feet. National Oil Co.'s No. 6, Lot 179 Quebrache is drilling in gray shale at 1,200 feet, getting a gas blowout at that depth.

In Ebano, Mexican Petroleum Co.'s

The Cross Process Cracking Fuel Oil

The Common Sense Way
to Crack Fuel Oil is to Remove the Trouble Making Elements Before the Oil Reaches the Cracking Process

The Cross Process Does This
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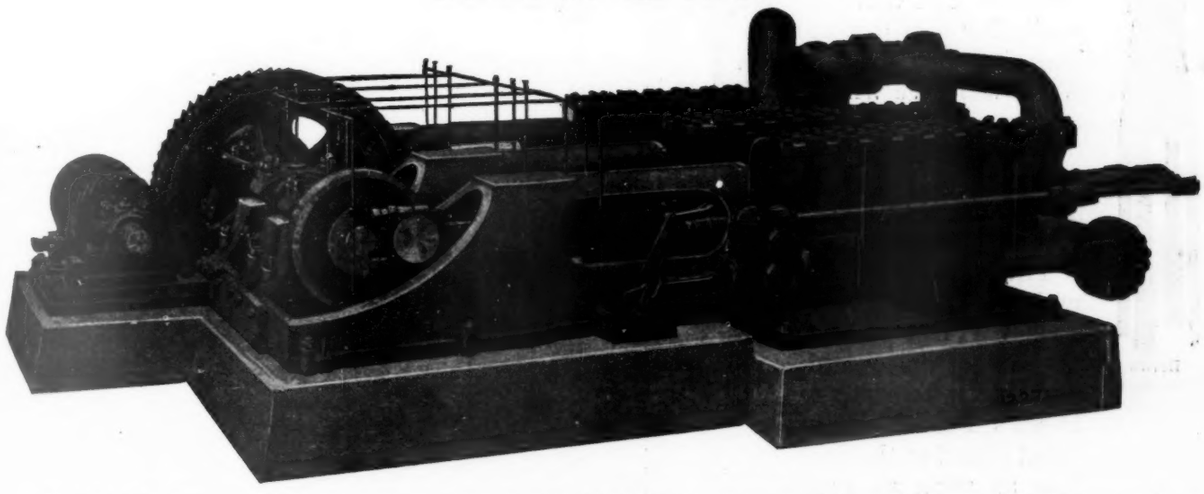
RANGER



Day in and day out, a Ranger will operate against 1000 lbs. line pressure. No pipe line work is too severe for a Ranger to do easily.

Great strength is seen in every line and curve in such a well laid out plan that the pump itself might be looked upon as a monument to "STRENGTH." But the men who know this pump and who appreciate its deep inner excellence prefer to look upon it as an example of

What a Pipe Line Pump Should Be

Detailed information concerning this pump will be gladly furnished on request. Address any District Office or the Home Office.

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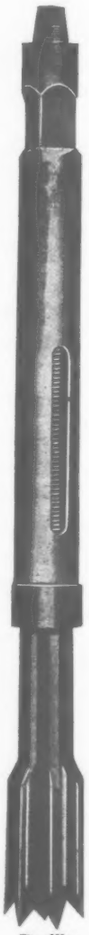
Why Gamble When You Can Be Sure?

Devil's Pitchfork and Devil's Steel Hand Take Guesswork Out of Fishing!

Devil's Steel Hand



Devil's Pitchfork

You have **positive proof** that your fishing job will be done right with a **Devil's Pitchfork** or a **Devil's Steel Hand** in the records that users are constantly describing. The case of R. W. Young, Pan-American Petroleum Co., is just one example.

"After fishing for several weeks," he writes, "**at an expense of several thousands of dollars** for labor and various tools, for a slip that had dropped in on No. 4 well, we wired to Texas, had your tool shipped, and were successful in fishing out the rotary slip."

The surest way to make a fishing job cause the least amount of delay and expense is to rush a Devil's Pitchfork or Steel Hand to the job just as soon as you find fishing is necessary. Why gamble when you can be sure?

Full details gladly given on application

Brown Welding & Machine Co.

Main Office and Factory: Breckenridge, Texas
Rental Branch; 310 E. 3rd St., Tulsa, Okla.

108

No. 22 Chijol is drilling in shale at 430 feet; No. 23 is drilling in a lime at 1,510 feet; No. 35 La Dicha is drilling in lime at 2,285 feet; No. 1 Las Margaritas is drilling in lime at 2,498 feet.

In El Barco, Kern Mex Oil Fields' No. 11 Las Palmas is drilling in gray lime at 1,975 feet, and No. 14 is drilling in shale at 1,010 feet. Mexican Gulf Oil Co.'s No. 12 El Barco is fishing for a bit at 2,095 feet in gray and brown lime; No. 45 is rigging rotary, and its No. 46 is drilling at 1,158 feet in gray limestone.

In the Marland Field, Cia Pet. Franco Espanola, No. 8 Limon cemented 10-inch at 1,015 in hard shale; No. 14 is drilling in gray and brown shale at 1,610 feet. Out in Guerrero, southwest of Limon, the same interests test No. 1 Rubio is drilling in gray shale at 1,610 feet.

In Caracol, not far from Tampico, Venable and others' No. 1, Lot 21, is drilling in shale at 1,195 feet; No. 1, Lot 32, is drilling in the San Felipe at 2,190 feet, and No. 1, Lot 73 is spudding.

N. LOUISIANA-ARKANSAS

(Continued from Page 48)

2,330 feet in No. 1 Moon in Section 32-15-17; Smith Refining Co., bailing to test 8 feet of sand at 2,251 feet in No. B-2 Patton in Section 31-15-16; Snowden and McSweeney are setting 2-inch tubing with 800 feet of oil in the hole and 22 feet of sand at 2,284 feet in No. 7 Taylor in Section 29-15-16.

The Standard Oil Co. of Louisiana abandoned at 2,235 feet No. B-2 Goodwin in Section 5-16-15; set 10-inch casing at 1,010 feet in No. 3 Griffin in Section 33-15-15; drilling shale and gumbo at 2,055 feet in No. 4 Minor in Section 21-15-16; rigging up No. 1 Powell in Section 34-15-16; Staves and others are rigging up No. 1 Jeffus in Section 26-15-17.

The Sun Oil Co. set 12-inch casing at 35 feet in No. 3 Berry in Section 24-15-17; Sure Oil Corp. is waiting on standard rig at 2,270 feet in No. 2 Shivey in Section 28-15-16; Sutton and others are drilling at 2,088 feet in No. 8 Hughes in Section 28-15-16; drilling at 40 feet in No. 10 Hughes in same section; derrick is up for No. 3 McElroy, Section 20-15-16,and Minor D-1 in the same section is rigging up to drill.

The Texas Co. set 10-inch casing at 65 feet in No. 5 W. A. Smith in Section 31-15-16; drilling rock at 2,270 feet in No. 3 Snow in Section 30-15-6; set 10-inch casing at 55 feet in No. 8 Snow in the same section; set 10-inch casing at 61 feet in No. 2 Stout and set 6-inch casing at 2,195 feet in Section 31-15-16; bailing to test 5 feet of sand with 800 feet of oil in the hole at 2,250 feet in No. 3 Stout in Section 31-15-16; derrick up for No. 4 Stout in same section; set 4-inch casing at 2,250 feet in No. 1 Stringfellow in Section 28-15-16 and drilling at 2,195 feet in No. 4 Stringfellow in Section 28-15-16.

White and others set 6-inch casing at 2,195 feet in No. 3 Watts in Section 30-15-16; and derrick up for No. 4 Watts in same section; Whittiken & Tate are drilling at 2,310 feet in No. 2 Berg in Section 29-15-16; Whittaker and others are swabbing to test 22 feet of sand at 2,395 feet in No. 1 Anderson in Section 23-15-17 and rigging up to drill No. 2 Anderson in same section.

Wingfield and others set 10-inch casing at 60 feet in No. 4 Fincher in Section 29-15-16 and bailing to test 19 feet of sand at 2,275 feet in No. 3 Smith in Section 36-15-17.

The Wonder State Oil Co. set 6-inch casing at 1,830 feet in No. 3 Anderson and has derricks up for Nos. 4 and 5 Anderson, all in Section 23-15-17.

Bellevue Field—Bossier Parish

The Humble Oil & Refining Co. completed Bliss & Weatherbee A-14, Section 10-19-11, pumping 30 bbls. at 380 feet. The Standard Oil Co. completed No. 16 Wyche, Section 14-19-11, pumping 3 bbls. at 375 feet.

Bliss & Weatherbee are arranging to pump Bliss & Weatherbee B-12, Section 15-19-11, and rigging up to drill B-13 in same section. Gulf Refining Co. has 40 feet of oil in the hole in Bliss & Weatherbee A-18, Section 15-19-11, at 370 feet; Humble Oil & Refining Co. is drilling at 150 feet in Bliss & Weatherbee A-15, Section 10-19-11.

The Standard Oil Co. is drilling at 1,340 feet in a deep test on the McCloud lease in Section 13-19-11, and set 6-inch casing at 310 feet in No. 3 Wyche, Section 14-19-11. Olmstead and others are drilling at 50 feet in Strange A-16, Section 23-19-10.

Caddo Parish

The Simms Oil Co. completed No. 3 Noel, Section 7-21-14, pumping 5 bbls. at 1,593 feet.

The Arkansas Caddo Oil Co. is down 2,000 feet in an interesting test on the Nickerson lease in Section 30-19-15, between Shreveport and Mooringsport.

Brewer & Sewall are drilling at 2,755 feet in No. 1 Sharp, Section 15-18-16, 10 miles west of Shreveport.

Collins and others set 6-inch casing at 975 feet in No. 1 Levy Realty & Planting Co., Section 23-19-14, 9 miles north of Shreveport.

In the north end of Caddo Parish, the Louisiana Texas Community Oil Co. is drilling at 1,500 feet in No. 1 McCoy, Section 15-23-16.

In the Pine Island district, the Dixie Oil Co. is drilling at 2,975 feet in No. 43 Robertshaw, Section 13-21-15; building standard rig for No. 59 Robertshaw at 1,670 feet and rigging up to drill No. 60 in Section 14-21-15. Reed and others are drilling at 1,100 feet in No. 1 Hartzo, Section 7-21-15, and the Tarver Oil Co. at 1,275 feet in No. 8 Logan, Section 22-21-15.

In the Mooringsport district, Rush and others set 4½-inch casing at 2,295 feet in No. 1 Rudersdorf, Section 11-20-16.

In the Ferry Lake district, the Gulf Refining Co. is rigging up to drill No. 216 Ferry Lake, and drilling at 1,100 feet in No. 217, Section 15-20-16.

Claiborne Parish

The Triangle Drilling Co. abandoned its deep test on the Rainach lease in Section 17-22-5 after drilling to 3,005 feet.

Exhaustive tests are being made of the territory from 5 to 15 miles east of Homer, and extending south to within 5 miles of Arcadia.

Arnett and others set 10-inch casing at 155 feet in No. 1 Calhoun, Section 26-21-6, 5 miles east of Homer.

The Forest Oil Co. is drilling at 1,100 feet in No. 1 Fields, Section 22-19-5, 5 miles north of Arcadia.

The Standard Oil Co. is drilling at 710 feet in No. 1 Loyd, Section 10-20-5, 10 miles southeast of Homer.

Woodley & Collins are drilling at 975 feet in No. 1 Reynolds, Section 30-21-4, 12 miles east of Homer.

The El Dorado Chief Oil Co. tested dry at 2,160 feet in No. 1 Gandy, Section 36-22-7.

The Triangle Drilling Co. is rigging up to drill No. 1 Ferguson in Section 5-21-5.

The White Oil Corp. is drilling at 750 feet in No. 18 Oakes, Section 30-21-7.

De Soto Parish

Ulrey and others bailed 6-inch casing dry at 2,685 feet in No. 1 Frost Johnson, Section 3-11-15.

Ouachita Parish

The Central Carbon Co. completed No. 4 Flournoy, Section 22-19-5, making 4,000,000 feet of gas at 2,285 feet.

The Central Carbon Co. is rigging up to drill No. 2 Lieber, in Section 4-19-5; J. M. Huber set 12½-inch casing at 200 feet in No. 6 fee, Section 30-19-5, and Ladel and others, drilling at 1,870 feet in No. 24 fee, Section 6-19-5.

The Ouachita Natural Gas Co. is drilling at 1,050 feet in No. 3 Lieber, and at 1,915 feet in No. 5 Smith, Section 32-20-4; Palmer Corp., drilling at 1,415 feet in No. 2 Gladney and set 6-inch casing at 2,280 feet in No. 1 Hare, Section 28-19-5.

The Southern Carbon Co. set 6-inch casing at 2,190 feet in No. 29 fee, Sec-

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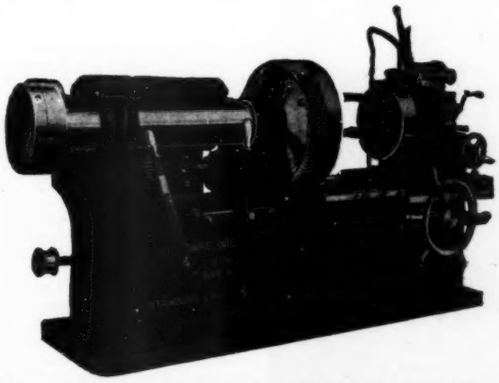

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tion 29-19-5 and 8-inch in No. 30 fee in same section; rigging up to drill No. 31 fee in Section 21-19-5 and set 12½-inch casing in No. 2 Kerr, Section 12-19-4.

The Texas Co. is drilling at 1,875 feet in No. 5 Gibbs, Section 20-19-5; Union Gas Products Co., drilling at 1,780 feet in No. 1 Tensas Delta, Section 10-19-5, and United Oil & Gas Producing Co. set 6-inch casing at 2,120 feet in No. 2 Kerr, Section 12-19-4e.

Union Parish

The Gulf Refining Co. abandoned its test on the Security Trust lease in Section 23-23-1w, at 2,965 feet.

In the east end of the parish, adjoining the Monroe gas field, the Union Power Co. completed Union Sawmill Co. A-10, Section 5-20-5, making 14,000,000 feet of gas at 2,157 feet, and A-15, Section 2-20-3e, making 2,500,000 feet of gas at 2,143 feet.

Allison and others are arranging to abandon test on the Heard lease in Section 25-23-1w, at 2,617 feet.

Johnson and others are arranging to set 8-inch casing to cut off the salt water at 1,325 feet in No. 1 Pryor estate, Section 35-22-2w.

The Neddo Petroleum Invincible Corp. is drilling at 2,260 feet in No. 1 Smith, Section 2-23-3w.

The Union Power Co. is drilling at 1,400 feet in Union Saw Mill Co. A-8, Section 21-21-4e.

Red River Parish

The Fortuna Oil Co. is drilling at 3,620 feet in a deep test on the Armistead lease in Section 24-12-11.

La Grande and others are drilling at 420 feet in No. 3 fee, Section 2-14-12.

Louisiana Wildcats

Bienville Parish: The Arkansas Fuel Oil Co. is arranging to abandon No. 1 Harrel, Section 6-18-5, after drilling to 3,350 feet. The test is 2 miles north of Arcadia.

Bossier Parish

Armistead, trustee, is drilling at 1,200 feet in No. 1 Bernstein, Section 11-20-13, 4 miles northeast of Benton.

In the north eand of Bossier Parish the Atlantic Oil Producing Co. is drilling at 2,415 feet in No. 1 Bodcau Lumber Co., Section 24-23-12, and Estes and others set 6-inch casing at 2,625 feet in No. 1 Bodcau Lumber Co., Section 15-23-12.

In the Elm Grove district, Davis & Burch set 8-inch casing at 815 feet in No. 1 Mercer, Section 22-16-12, and Skannell and others at 1,100 feet in No. 1 Smith, Section 24-17-12.

The Standard Drilling Syndicate is drilling at 820 feet in No. 1 Johnson, Section 18-18-11, 10 miles northeast of Shreveport.

La Salle Parish

Helm & Burch are setting 6-inch casing at 1,555 feet in No. 1 Urania, Section 21-11-2e, and the Stovall Drilling Co. is down 100 feet in No. 2 Louisiana Central Lumber Co., Section 27-10-2e.

Morehouse Parish

The Carson Carbon Co. is drilling at 2,185 feet in No. 2 Erwin, Section 25-20-5; Humphreys Carbon Co. is drilling at 2,250 feet in No. 1 Stephenson, Section 16-22-5 and Ladel and others set 12½-inch casing at 200 feet in No. 2 White, Section 30-20-5.

The Natural Gas Producing Co. is drilling at 1,800 feet in No. 3 Snyder, Section 34-20-5; Oil Field Exploration Co., shooting formation at 2,253 feet in No. 1 Eldridge, Section 34-20-5, and Southern Carbon Co., rigging up to drill No. 12 Spyker in Section 8-20-5.

Webster Parish

In the Cotton Valley district, Belchic & Laskey are rigging up to drill No. 1 Logan in Section 2-21-10; Fortuna Oil Co., drilling at 1,600 feet in No. 1 Cox, Section 23-21-10, rigging up to drill No. 2 Merritt in Section 12-21-10, rebuilt derrick and sidetracing liner at 2,720 feet in No. 1 Pruitt, Section 17-21-9.

The Gulf Refining Co. is drilling at 300 feet in No. 1 A. J. Hodges, Section 11-21-10; Humble Oil & Refining Co. is drilling at 1,710 feet in No. 2 Babb, Section 12-21-10, at 1,675 feet in No. 1 Bodcau Lumber Co., Section 12-21-10, at 440 feet in No. 1 A. J. Hodges, Section 12-21-10, rigging up to drill Hodges A-1 in Section 10-21-10.

The Invincible Oil Co. set 10-inch casing at 1,175 feet in No. 1 A. J. Hodges, Section 11-21-10, and rigging up to drill No. 2 Merritt in Section 14-21-10.

Moffett & Murphy are building derrick for No. 1 Pardee in Section 24-21-10; Ohio Oil Co. set 6-inch casing at 2,457 feet in No. 3 Hodges, Section 15-21-10, and 8-inch at 1,110 feet in No. 2 Merritt, Section 14-21-10, and Oil Field Gas Co., rigging up to drill Hope estate A-1 in Section 13-21-10.

In the north end of the parish, in the Spring Hill district, Smitherman & McDonald's test on the Baucher lease in Section 21-23-11, came in on March 8 making 10,000,000 feet of gas with 5,000 bbls. of water and b. s. and a showing of oil. The well was killed and the hole cemented to the casing seat to shut off the salt water. Drilling through the cement to the bottom of the hole, the well came in with an estimated production of 30,000,000 feet of gas and 200 bbls. of fluid, 50 per cent salt water and 50 per cent b. s., flowing for one hour. Arrangements are now being made to again fill the hole with cement and retest as there are encouraging indications of oil.

West Carroll Parish

The Orion Oil Co. set 8-inch casing at 2,865 feet in No. 1 Bain Wagon Co., Section 23-23-10.

Ouachita County—Stephens Field

The Ohio Oil Co. set 6-inch casing at 2,070 feet in No. 4 Hall, Section 31-15-19.

Arkansas Wildcats

Drew County: Graves and others are drilling at 2,175 feet in No. 1 Karnes, Section 10-13-8.

Ratcliff and others set 12½-inch casing at 155 feet in No. 1 Spencer, Section 21-14-7.

Rhodes and others are drilling at 160 feet in No. 1 Harris, Section 5-13-8.

Spoonee and others are rigging up to drill No. 1 Meyers in Section 4-16-7.

Grant County

The Texas Co. set 10-inch casing at 525 feet in a test on the Chicago Land & Timber Co. lease in Section 16-6s-13w.

Nevada County

Burnham and others tested fresh water and waiting orders at 565 feet in No. 1 Perry, Section 12-15-22.

Dudley and others are drilling in rock at 1,550 feet in No. 1 Grayson, Section 32-11-21.

The Prescott Oil Co. is drilling at 810 feet in No. 2 Henry, Section 11-12-20.

The Kenark Oil Co. is drilling at 860 feet in No. 2 White, Section 11-31-21.

Wooten and others set 8-inch casing at 1,135 feet in No. 1 Ellis, Section 2-14-21.

Columbia County

The Magnolia Petroleum Co. completed No. 6 Hammond, Section 25-15-20, pumping 30 bbls. at 2,125 feet. The Standard Oil Co. completed Laney Jones C-1, Section 25-15-20, pumping 40 bbls. at 2,112 feet.

The Amerada Petroleum Corp. is drilling at 1,295 feet in No. 1 Baker-Joiner, Section 2-18-22; Atlantic Oil Producing Co. set 6-inch casing at 2,025 feet in No. 3 Weaver, Section 36-15-20, and Transcontinental Oil Co. set 6-inch at 2,050 feet in No. 3 Hammond, Section 25-15-20.

Neibert and others are drilling at 1,010 feet in No. 1 Berge, Section 22-18-22, and Johnson and others set 10-inch at 60 feet in No. 1 Sorrells, Section 18-17-22.

CENTRAL WEST

(Continued from Page 56)

on the John Knaph 90 acres, Lot 53. In York Township, the East Ohio Gas Co. got a dry hole in a test on the W. H. Dietrick, Section 14, and the Ohio Fuel Gas Co. made a location for No. 1 on the William C. Strittmater 80 acres, Section 18. In Orange Township, Ashland County, the Logan Gas Co. has started drilling No. 4 on the William Montieth 360 acres, Section 7, and No. 1 on the Perry Black 40 acres, Section 17, Hanover Township, same county.

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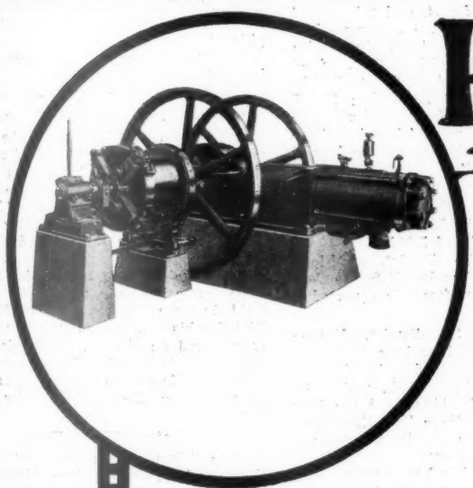

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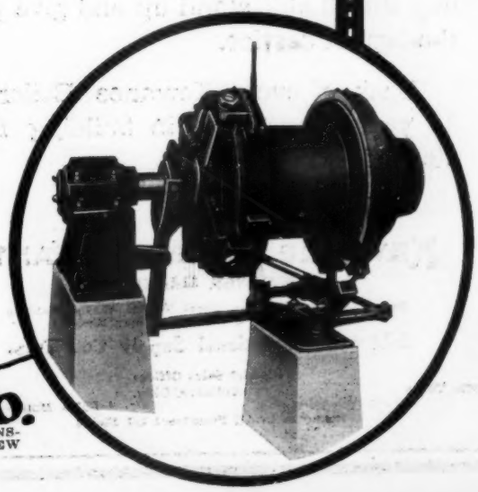

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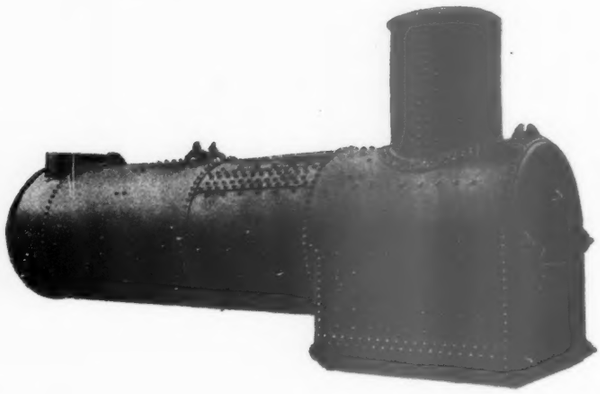

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the Logan Gas Co.'s No. 1 E. T. Kissinger, Section 9, is reported at 20 bbls. This company has a nice gas well at No. 1 U. G. Russell, Section 21, and a duster at No. 2 J. Sell, Section 17, same township. The Ohio Fuel Gas Co. has a fair gas well at No. 1 William S. Smith, Section 21. Logan Gas Co. is drilling No. 1 J. W. Van Horn 88 acres, Section 18, Plain Township, same county.

In Benton Township, Hocking County, the Ohio Falls Oil & Gas Co. drilled in a 1,000,000-foot gas well at No. 4 Joe Ernhart, Section 13. In the same township, the Logan Gas Co. is drilling No. 1 Eli Watts 100 acres, Section 13, and made location for No. 4 A. L. Unger 42 acres, Section 5, and No. 5 John L. Mauk 222 acres, Section 13.

In Monroe Township, Holmes County, the Arkansas Fuel Oil Co. is drilling No. 1 W. H. Geib, Section 7. In Lick Township Jackson County, the Ohio Fuel Supply Co. made the location for No. 1 on the Grace Miller 40 acres, Section 36. In Troy Township, Athens County, the Logan Gas Co. is drilling at No. 1 on the S. J. and Ivy Wildman 23 acres, Section 24.

In Richfield Township, Summitt County, Hulse & Koontz started drilling No. 1 on the Rex Babb 124 acres, Section 2.

Eastern Kentucky

While Kentucky oil men had arranged a great amount of new development work during the summer, the sudden decline in price may bring about a change. In the more shallow territory the wells are so small that even a small cut in price affects the field.

In the North Weir Field, of Lawrence-Johnson Counties, in the Eastern Kentucky Fields, the Union Gas & Oil Co. made a phenomenal strike in its No. 20 on the J. H. Skaggs farm, which came in with a flush production of 100 bbls. of the 500 completions already made by this company in seven years, 425 are oil producing wells, 68 are gas wells and but 7 dry holes were found, and this record will stand for some time to come. The same company's No. 11 on the Levisa Skaggs, is credited with a flush of 40 bbls., and No. 14 J. M. Fyffe at 25 bbls. No. 25 on the Proctor Sparks; No. 5 James Dials and No. 6 Felix Fyffe have started spudding and locations have been made for No. 26 Proctor Sparks and No. 32 J. J. Gambill.

In the South Weir Field, of Johnson-Magoffin Counties, C. W. Wheeler and others' No. 10 A. J. Tackett farm, in the Elna district, produced 5 bbls.

In the Hueyville district, of Floyd County, the New Domain Oil & Gas Co.'s No. 2 Tom Martin farm, is reported a 3-bbl. pumper.

In the Monticello district, Wayne County, the Beaver Petroleum Co.'s No. 4 L. N. Morrow, reported at 5 bbls; No. 5, same farm, at but 1 bbl., while No. 6 is reported at 50 bbls., and the best well for the county in a long time. Carter & Bertram's No. 2 Florence Koontz farm, is a 3-bbl. pumper.

The Idamay Field in Lee County, along the Lee and Owsley County line, is attracting considerable attention by the size of wells that are being brought in, and there is more activity than in any spot in Lee County. The Halley Producing Co.'s Nos. 3 and 4 Gourley-Rodman-McGuire farm, are reported at 35 and 50 bbls. Petroleum Exploration Co.'s No. 3 George Botner farm, 50 bbls. and its No. 1 Eliza Brandenberg farm, 50 bbls. These are all fine wells and such as to encourage further development.

The Cumberland Pipe Line Co.'s runs through its lines of eastern Kentucky for the week ending May 3, were 82,396.46 bbls., for a daily average of 13,732.74 bbls., and the runs for the week ending May 10 were 83,485.29 bbls. for a daily average of 13,914.22 bbls.

The Indian Refining Co. handled through its lines in Lee, Estill and Powell Counties for April, a total of 19,067.43 bbls., being practically only a portion of the month's run, as the Petroleum Producing Co. took over the lines, pump stations and leading station as well as storage tanks.

The Indian Pipe Line Corporation handled through its western Kentucky lines for April, a total of 62,899.35 bbls., of which 8,154.79 bbls. came from Hancock and Ohio Counties, 20,879.15 bbls. from Warren County, and 33,865.41 bbls. from Allen County.

EASTERN FIELDS

(Continued from Page 52)

completed for No. 9 on the C. P. Samples farm. In West Union district, Doddridge County, the Imperial Oil & Gas Products Co. has started to drill on the F. M. Britton farm. In the same district, S. J. Squires has tools moved to a location on the Wesley Smith farm. In McElroy district, Tyler County, the American Oil Development Co. is drilling at 1,000 feet at a test on the L. R. Kyle farm. In Grant district, Ritchie County, the Continental Oil Co. has a rig up on the Michael Burke farm.

Southwest Pennsylvania

One mile west of Ninevah, Morris Township, Greene County, the Manufacturers Light & Heat Co.'s test on the Michael Funk farm is a gasser in the Nineveh 30-foot sand, good for 4,500,000 feet a day. In Center Township, the John's Oil & Gas Co.'s second test on the H. Antill farm is a 3-bbl. pumper in the Gordon sand. In Gilmore Township, the Philadelphia Oil Co. has a gasser in the Bayard sand at a test on the Louisa M. Fordyce farm. In Perry Township, the Home Gas Co. has a Gas sand gasser on the Justice South farm.

In Morris Township, the Manufacturers Light & Heat Co.'s test on the M. Funk farm is a gasser in the Gordon sand. In Richhill Township, the Carnegie Natural Gas Co.'s test on the W. H. Hughes farm is a gasser in the same formation. Oscar Orndoff & Co.'s test on the Frank Gallentine farm in Aleppo Township, is a gasser in the fifth sand. In Washington Township, the Philadelphia Co. drilled its No. 3 on the Amos Allison farm through the Bayard sand. It is a fair gasser.

Starting Tests in Greene County

In Gilmore Township, the Peoples Natural Gas Co. is drilling on the Jesse Lemon farm. In Springhill Township, the Manufacturers Light & Heat Co. is due in the Gordon sand on the J. H. Smith farm. In Jackson Township, the Milliken Oil & Gas Co. is drilling in the Big Injun sand on the Edward Milliken farm. In Morris township, the Concord-Nineveh Oil & Gas Co. is due in the same formation at a test on the R. R. Baldwin farm. In Center Township, the Philadelphia Oil Co. is due in the Big Injun sand on the W. C. Morris farm. In Jackson Township, the Davenport Oil & Gas Co. is due in the same formation at a test on the Joseph Taylor heirs' farm.

Status of Deep Tests

Near Ligonier, on Chestnut Ridge, Westmoreland County, Pennsylvania, the Peoples Natural Gas Co. is down 6,817 feet at its test on the Seger Brothers' farm. In the same locality, the same company is drilling at 6,051 feet at a second test on the Booth-Flinn property. It has had and is still having a great deal of trouble with caves at this well.

Near Terra Alta, Portland district, Preston County, West Virginia, the Hope Natural Gas Co. is drilling at 2,878 feet at its deep test on the Joseph Gordon farm. It has had to stop several times to straighten the hole, but is now drilling and making good time.

CURTAILS RUNS

WICHITA, Kans., May 19.—Curtailment of runs from 3,000 bbls. of crude daily to 1,500 bbls. has been announced by the Derby Oil Co. here. Improvement in weather conditions and increased purchases of motor fuel will be necessary before any increase in runs is made, according to company officials.

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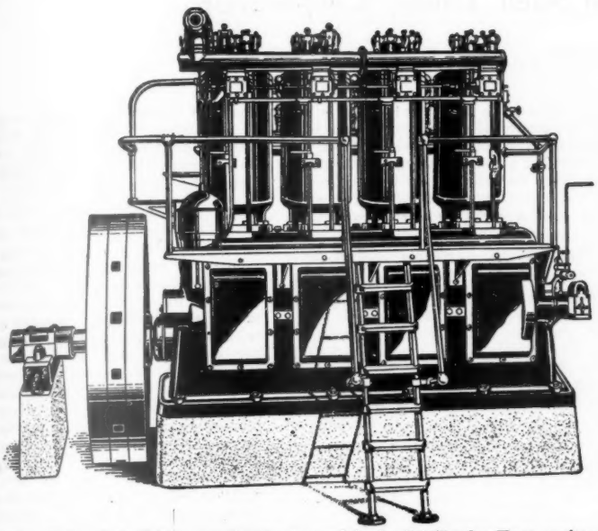

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Heavy Duty Gas Engine

This high quality, four cycle engine has established an enviable reputation for extreme reliability and economy driving compressors in gasoline absorption plants. Recording gauges in a casing-head gasoline plant of Sinclair Oil and Gas Co., in which are installed four 165 HP FOOS of this type, show an operating record of 99.58% of the total time for one year, 24 hours per day—7 days per week, the engines at that time being in their fifth year of continuous service.

Bulletin G-408 giving complete illustrations and details of construction will be mailed on request

Other types and sizes 2 1-2 to 400 H.P. for all oilfield work.

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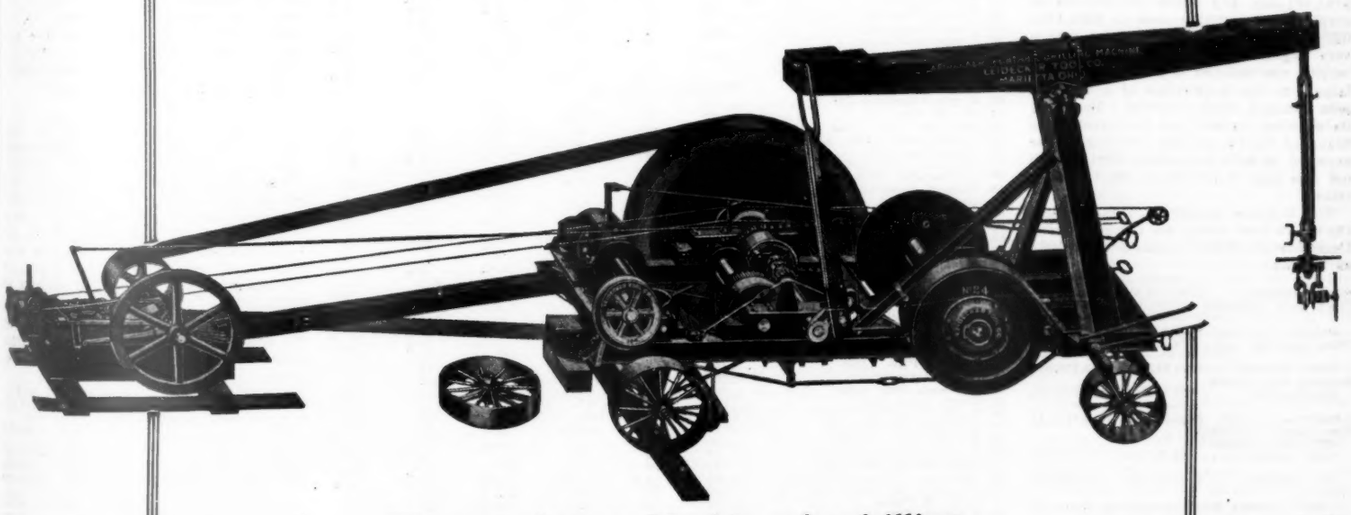

We manufacture Machines for drilling any depth from 500 feet to 3500 feet.

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THE LEIDECKER TOOL COMPANY, Marietta, Ohio
Branch Stores and Shops: Bartlesville, Okla.; Basin, Wyo.; Casper, Wyo.

Petroleum Securities Improved in Tone

Partly Due to Favorable Showing in Annual Report of New Jersey and Quarterly Report of Shell Union Corporation

By N. O. Fanning
Room 525, No. 30 Church St., New York

NEW YORK, May 19.—Oil securities improved in tone during the past week, partly due to the issuance of a favorable annual report by the Standard Oil Co. of New Jersey and a good report for the first quarter of 1924 by Shell Union Oil Corp.

Although the undertone in the oil group as a whole showed improvement, Standard Oil of New Jersey common was weak, dropping to a new low of 33, which is only 2⅛ points above its 1923 low. This was in spite of the favorable financial statement for 1923, showing $2.10 per share earned on the common stock. The stock rallied later to 34.

Cosden & Co. stock was weak, selling coming into this issue upon the publication of its annual report for 1923, showing a deficit.

The financial statement of the Standard Oil Co. of New Jersey for 1923 is more favorable than expected. It shows net earnings, including proportion of those of affiliated companies, of $56,295,282, equivalent after preferred dividends to $2.10 per share on the $502,099,200 outstanding common stock (par $25). This compares with $46,242,436, or $1.61 per share, earned on $498,587,125 common stock in 1922. During 1923 the company added $21,898,418 to surplus.

The Standard organizations have always tried to conserve resources so expansion could be met from surplus earnings as far as possible, and the companies be in a strong position in case of emergency. In 1920 Standard Oil of New Jersey reported net earnings of $164,461,409, and added $93,854,364 to surplus, bringing that item to $592,146,925, the record. In 1921 there was a very slight reduction, and in 1922 the surplus was reduced to $206,168,996, due largely to the declaration of a 400 per cent common stock dividend. Based on its showing for the last four years, the Standard Oil Co. of New Jersey could be expected to earn more than $100,000,000 net this year if oil prices can be maintained.

The financial report of the Standard Oil Co. of New Jersey for the year ended December 31, 1923, compares with 1922 as follows:

	1923	1922
*Gross income	$367,334,410	$328,286,827
Costs and expenses	340,306,941	305,792,577
Balance	$ 27,027,469	$ 22,494,250
Other income	8,490,246	10,435,764
Total Income	$ 35,517,715	$ 32,930,014
General exp., taxes depreciation	20,010,733	20,042,273
Balance	$ 15,506,982	$ 12,887,741
Proportion, earnings affiliated companies after taxes	40,788,300	33,354,695
Net surplus	$ 56,295,282	$ 46,242,436

*Gross income from operations with all departmental transactions eliminated.

Consolidated Balance Sheet

The consolidated balance sheet of the Standard Oil Co. of New Jersey and affiliated companies as of December 31, 1923, compares as follows:

Assets	1923	1922
Total value plant, equipment, etc., less deprec.	$ 464,765,468	$ 441,981,831
Investments	158,356,076	134,777,894
Inventories of merchandise	245,908,139	263,200,023
Accounts receivable	267,888,285	269,221,993
Cash	11,086,985	14,579,149
Total	$1,148,004,953	$1,123,760,890
Liabilities		
Preferred stock	$ 199,972,900	$ 199,972,900
Common stock	502,099,200	498,587,125
Accts. payable	204,855,636	205,612,235
Marine insurance reserve	3,921,993	3,253,146
Tax reserve	5,731,155	7,194,875
Reserve for annuities	3,356,655	2,971,613
Surplus	228,067,414	206,168,996
Total	$1,148,004,953	$1,123,760,890

A. C. Bedford, Chairman of the Board of the New Jersey company, states in his remarks to stockholders:

"In the past three years the petroleum industry has experienced a cycle of over-production in varying degree, reaching a climax in 1923, and which is not at the present time entirely a matter of history. The condition arising from this situation of a continuous crude oil surplus has been logically a marked expansion in the consumption of petroleum products and a sustained tendency toward low market values.

"In 1923, the aggregate production of crude oil in the United States was 746,000,000 bbls., a daily average of 2,044,000 bbls., this being an increase of 34 per cent over 1922. Stocks of crude oil in the United States increased 258,000 bbls. daily or 33 per cent while petroleum stocks other than crude oil increased 22 per cent. The production of crude oil by this company in both its foreign and domestic operations showed an increase of approximately 60 per cent over 1922. The company's stocks of crude increased 16 per cent and its petroleum stocks other than crude decreased 7 per cent.

"The over-production of crude was to some extent counterbalanced by the growth in consumption. The company's volume of turnover, in 1923, surpassed by a considerable margin any previous year in its history, its business as a whole being 20 per cent in excess of 1922, with its gasoline sales increasing 24½ per cent over that year. Nevertheless the general condition of diminishing prices for petroleum products restricted the gain in gross receipts from the whole business to 8 per cent, while the gross receipts from gasoline sales actually declined 3.06 per cent. Of the aggregate earnings of the company, less than $20,000,000, or under 36 per cent, was derived from its domestic oil business, the balance accruing from its foreign subsidiaries, its fleet and its subsidiaries not engaged in the oil business.

"In the presentation of the final results of the year, the precedent of 1922 has been followed in the elimination of all interdepartmental transactions. The total earnings of the company in the year 1923, after deducting federal taxes, was $56,295,282; the gross assets at book value amounted to 1,148,004,953, and the surplus at the end of the year was $231,424,069, an increase in surplus account of $22,283,461. The dividends paid during the year were $34,011,821.

"These results, notwithstanding the adverse underlying conditions, reflect an improvement over the previous year although the prevailing level of market prices was insufficient to provide a return upon the capital investment commensurate with the hazardous character of the business. In the opinion of the board the general improvement and extension of the company's facilities and the augumentation of resources which has occurred should be more satisfactorily demonstrated in a normal period."

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

No.	Stock—	Par	§Dividend Rate	Closing Quotations May 20	May 13	Range High	1924 Low
1.	American Republics	..	..	*36	*35	43	25
2.	Associated Oil	25	6	28½	*28½	34⅝	28¼
3.	Atlantic Refining, common	100	4	105¼	106¼	140½	104
4.	Barnsdall "A"	25	..	16	16	18⅞	14
5.	California Petroleum, common	25	7	22⅝	22⅝	29¼	22⅛
6.	Cosden & Co., common	..	..	28⅝	29⅛	40¼	27⅝
7.	General American Tank	..	†3	*38	*39	46¼	38¼
8.	General Asphalt	100	..	23½	34	49	31⅝
9.	General Petroleum	25	8	39	39⅝	41½	38½
10.	Houston Oil	100	..	63⅝	63	82½	61
11.	Independent Oil & Gas	10	..	7½	7½	9¼	6⅝
12.	Indian Refining	10	..	*3½	*3⅝	5⅞	3⅝
13.	Invincible Oil	50	..	12½	12	15⅞	11⅝
14.	Maracaibo	..	..	27¼	27	37½	25⅝
15.	Marland	..	..	32	30½	42	29
16.	Mexican Seaboard	..	..	18⅝	19	24⅛	14⅛
17.	Middle States Oil	10	..	3½	3⅜	6⅞	3⅜
18.	National Supply	50	6	63	62¼	72¼	60¼
19.	Pacific Oil	..	†2	46⅜	46½	58¼	45
20.	Pan-American, common	50	16	47½	47⅝	61¼	44¼
21.	Panhandle Prod. & Ref.	..	..	1⅞	*2½	4½	2¼
22.	Phillips Petroleum	..	†2	35⅝	34⅝	42¼	33⅜
23.	Producers & Refiners	50	..	24⅝	24½	43½	22⅝
24.	Pure Oil Co., common	25	6	21⅝	21½	26⅜	20¼
25.	Royal Dutch, N. Y. sh.	13.40	2.62	54⅜	54⅝	59½	48
26.	Shell Transport	10	x92½	*38¼	*39	41½	33
27.	Shell Union, common	..	†1	17	17¼	20⅛	16¼
28.	Simms Petroleum	10	..	13½	12⅞	14⅞	10⅝
29.	Sinclair Consolidated, common	..	†2	19	18⅝	27½	18⅛
30.	Skelly Oil	25	..	19⅝	19⅞	29	18⅛
31.	Standard of California	25	8	56¼	57¼	68½	55½
32.	Standard Oil of New Jersey	25	4	33⅛	33½	42¼	33⅝
33.	Standard of New Jersey, pfd.	100	7	118	118	118⅝	115⅝
34.	Superior Oil	..	..	4⅞	4⅞	5½	2⅝
35.	The Texas Co.	25	12	39½	38⅝	45⅝	38⅝
36.	Texas & Pacific Coal & Oil	10	..	8⅝	*9	15¼	9
37.	Tide Water Oil	100	4	125	*126	161	120
38.	Transcontinental	..	..	4	3⅞	6¼	3⅝
39.	Union Tank, common	100	5	*97	*100	103	94
40.	White Eagle Oil & Refining	..	2¼	23½	23¼	29⅝	23¼
	Standard Oil Stocks						
41.	Anglo-American Oil	£1	25	*15	16¼	18	15¼
42.	Borne Scrymser	100	12	225	*215	264	150
43.	Buckeye Pipe Line	50	14	63	61½	85½	60
44.	Chesebrough Mfg., common	25	10	48¼	47½	53⅝	29¼
45.	Continental Oil	25	8	*39	*38½	54⅞	42½
46.	Crescent Pipe Line	25	..	*13	13½	20	16
47.	Cumberland Pipe Line	100	10	*133½	*133	144	109
48.	Eureka Pipe Line	100	8	*94	95½	105	95
49.	Galena-Signal, common	100	4	*57	*57	69¾	57
50.	Humble Oil & Refining	25	4.8	37	36½	43¾	36
51.	Illinois Pipe Line	100	12	134½	133	161	131
52.	Imperial Oil, Ltd.	25	12	100	100½	119	99
53.	Indiana Pipe Line	50	16	90	90	100	85
54.	International Petroleum Co.	100	x50	17⅝	17⅝	22¼	17⅝
55.	Magnolia Petroleum	100	4.5	*127	126	160	124
56.	National Transit	12.50	16	*22	*21½	25⅞	21¼
57.	New York Transit	100	10	*75	*76	97	75
58.	Northern Pipe Line	100	6	*85	92	107½	92
59.	Ohio Oil Co.	25	8	60½	60¼	79½	60⅛
60.	Penn-Mex. Fuel	25	..	36	38	45⅝	32½
61.	Prairie Oil & Gas	100	8	215	211	269	207
62.	Prairie Pipe Line	100	8	102	101½	111	100
63.	Solar Refining Co.	100	15	*185	*183	225	170
64.	Southern Pipe Line	100	16	96	94½	100	89½
65.	South Penn Oil	100	..	135	*131	176	130
66.	South West Pa. Line	100	8	*84	84½	89	80
67.	Standard of Indiana	25	10	56½	56¼	58⅝	55⅝
68.	Standard of Kansas	25	8	40	40½	50½	39⅛
69.	Standard of Kentucky	25	16	103	102	120	102½
70.	Standard of Nebraska	100	20	229	230	256½	198
71.	Standard Oil of New York	25	5.6	38½	38⅝	48	37⅝
72.	Standard of Ohio, common	100	10	285	283	336	277
73.	Swan & Finch	100	..	*45	46½	81	34
74.	Vacuum Oil	25	10	60⅝	60¼	69¼	56½
75.	Washington Oil	10	..	*27	28	29	25
	Miscellaneous Stocks						
76.	Cities Service, bankers' shares	..	†21	12⅝	14	16	13⅜
77.	Gulf Oil Corporation of Pa.	25	6	58¼	*58	65	56⅝
78.	Mutual Oil	5	10	9⅝	9⅝	14	9⅝

*Bid, no sales. †In dollars. §6 per cent in cash and 15 per cent stock dividend, now being paid in scrip. ‖The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange weekly was as follows:

May 20	48.25	Apr. 15	50.13	Mar. 11	53.38
May 13	48.24	Apr. 8	52.66	Mar. 4	53.38
May 6	49.59	Apr. 1	51.74	Feb. 25	53.12
Apr. 29	49.56	Mar. 25	51.32	Feb. 18	53.24
Apr. 22	46.77	Mar. 18	51.53	Feb. 11	55.67

Shell Union Oil

For the quarter ended March 31, 1924, Shell Union Oil Corp. and subsidiaries show net profit of $5,362,096, after expenses, depreciation, depletion, etc., but before Federal taxes, equivalent after preferred dividends to 50 cents per share earned on 10,000,000 shares of no par value common stock. This compares with $3,418,143, or 39 cents per share, on 8,000,000 shares, in the first quarter of 1923.

The consolidated income account of the Shell Union Oil Corp. for the quarter ended March 31, 1924, compares as follows:

	1924	1923
Gross income	$11,059,938	$6,756,591
Depreciation, depletion, etc.	5,697,843	3,338,448
*Net profit	$ 5,362,096	$3,418,143
Preferred dividends	300,000	300,000
Common dividends	2,500,000	2,000,000
Surplus	$ 2,562,096	$1,118,143
Profit and loss surplus.	14,567,603	5,964,494

*Before Federal taxes.

ITALIAN GRANT TO SINCLAIR

According to a dispatch from Rome H. F. Sinclair has been granted a concession to work Italy's oil fields and the cabinet council has approved the leases. Provisions are made for "national initiative," which at present is hampered by lack of capital.

Cannot Get Out Even at Present Prices

Oil and Gas Men Deserve Public Confidence on Record, Mr. Bedford Declares, Condemning Legislation Aimed at Industries

By A. C. Bedford

Address delivered before convention of Natural Gas Association of America at Cleveland, Wednesday, May 21

I was a natural gas man long before I became an oil man, and I know that it is as important for the gas companies to keep themselves straight with the public as it is for the dispensers of gasoline and kindred products; for the gas man is engaged in the most delicate of all business, that of dealing directly with customers who are, by a commonly recognized trait of human nature, predisposed to find fault with their service. There never was a meter that lied in behalf of the consumer; there never was a bill rendered that was not paid with a feeling that the customer could not have used the amount of fuel charged up to him, and yet, there is no piece of machinery so lacking in initiative and imagination as this same meter which never ticks off a foot of gas until that gas has pushed by.

The public has become so accustomed to cheap natural gas and cheap gasoline that it is inclined to regard any price as too high, and every company delivering these products as too much of a money maker. The fact is that these two industries, which are essentially one industry, have not been making enough money for the ultimate protection of the consumer. This is not a mere assertion it is the testimony of financial statements which have been coming to hand for the year 1923. You cannot expand an industry to meet the ever-increasing needs of a growing country like our United States without both plowing in earnings and supplementing them by new investment capital. You cannot get new capital for an industry that is consuming a limited supply of a natural resource unless you can show over a period of years, earnings sufficient to write off a fair amount for exhaustion.

The oil and gas industries have not been making a fair return on their actual, unwatered capital issues. They will have to do better and, given the facts, I am perfectly confident that the American public is willing that they should be better.

Recalls War Experience

In addressing you tonight I recall that it was my privilege to speak to you during the critical stages of the war, urging the importance of translating your sentiments of patriotism into practical and efficient steps designed to assure the success of the Allies. I was but one of those who uttered such an appeal during that time; but as chairman of the National Petroleum War Service Committee, I had somewhat unique opportunities to observe the respects in which those interested, directly and indirectly, in the petroleum business responded to those appeals.

In a word it may be stated that in spite of the intense rivalries between companies; in spite of the aggressive competition which had been carried on for so many years, often at a cost of great personal bitterness, the oil men of the country rallied together and subordinated their personal and corporate interests to one great end. It has been estimated that approximately 90,000,000 barrels of oil were used in fighting areas during the hostilities. Of that amount, 95 per cent was American production, and the supreme fact is, that in a war, dependent as was no previous war upon petroleum supplies, no effort of the Allies ever had to be postponed or halted because of the lack of the necessary oil.

And the members of this industry were not profiteers. They neither obtained nor sought to obtain any financial advantage out of the national necessities. They threw themselves with all their might into the efforts to produce the oil, to have it where it was needed at the time it was needed.

Where Government Was Wise

And the Government was singularly wise in its methods of conducting relations with the oil industry during the war. In spite of much agitation to that end, the Government very wisely refrained from taking over the oil business. It left the business to be handled by oil men. They worked in cooperation with the Government, with representatives of the Government, participating in their joint deliberations, with the Government in full possession of all the facts concerning their activities, their expenses and their profits, and yet with the feeling, at all times, that the Government placed the responsibility upon the oil men themselves, not alone to do the efficient thing, but to do the honorable thing. And this confidence of the public was not misplaced. Not only was the petroleum industry efficient during the war; not only was there no profiteering during the war; but at the close of the war this remarkable circumstance developed: the petroleum industry was shipping to Europe some $25,000,000 worth of petroleum per month. Much of this was upon future contracts. When the armistice came, however, the sprit of the petroleum industry was once again made manifest in that all unnecessary shipments were immediately stopped and that, as against $25,000,000 current demands actually in force at the armistice, the entire situation after the armistice was cleaned up at a total expense to the Allies of $500,000. Nobody was asked to pay for cancelled contracts; the oil business assumed the entire burden. This was not merely an act of patriotism, but it was an exhibition of efficiency growing out of the freedom from undue interference the industry had enjoyed during the war.

Now the oil business and natural gas business are very closely identified. For the results obtained by the petroleum industry, great credit is due to the cooperation afforded by those engaged in the natural gas business. And the first point I want to make is that in the gruelling test of war this great industry so comported itself that the Government found it unnecessary to take the business over, and found it unnecessary to impose such strict regulations of the business as to interfere with its ability to conduct itself effectively.

Here was an illustration of practical patriotism exhibiting itself in obtaining great results.

Proud of the Record

But patriotism is necessary in time of peace no less than in time of war, and that patriotism in time of peace means such conduct of one's personal and business life that one's activities contribute to the permanent welfare of one's country and the world. It is a poor conception of patriotism which would cause a man merely to struggle to protect the safety of his country in time of war, if in time of peace he was ready to devote himself to the exploitation of his own people. If an individual or a corporation does not so direct its policy as to promote the common welfare in time of peace, it is just as unpatriotic, in my judgment, as if it were a welcher in time of war.

But I maintain that the petroleum and natural gas industry—and I couple them in a singular and not a plural sense —are, as a matter of fact, patriotic in peace, precisely as they were in war. The men engaged in the oil and gas industry are just as honest today; just as unselfish today, as they were in 1917 and 1918. No business is perfect. There is no group of men engaged in any one industry, all of whom measure up to the highest standards of honor and patriotism, but I insist, and I insist with intimate knowledge, that the men who conduct the oil and natural gas business of today deserve public confidence, and they deserve it, not because of any words of endorsement of mine, but because the whole history of the business justifies the fact. Our business has been through a gruelling experience during the past year or two. I am here to apologize for or to explain away nothing which may be deserving of public censure, but I assert with great confidence that through the investigations and attacks of all kinds which have been made emerges the fact that the oil business as such has defied every attempt by partisan politicians to besmirch its character, to establish proof of profiteering or to tear down its record of public service.

The petroleum industry is peculiarly American. Not only has every important development in petroleum originated in the United States, but its adoption in foreign countries has almost invariably been due to the work of an American trained oil man who has gone abroad to teach nationals of other countries. There is no story in the history of commercial development in America that is a matter of greater national pride than this record of how an industry born and nurtured on American soil has ceaselessly studied, explored, invented, designed and built to the end that the supply of petroleum products should ever be abreast of the demand.

And this enormous development of the business has not been accompanied by increasing profits to the industry. In 1921 the net profits in the industry were but 4.3 per cent on the net worth of the assets employed. The figures for 1923 are not yet available, but they cannot be very different.

I repeat, therefore, that the petroleum and natural gas industries justified public confidence in time of war and that their service and the spirit and efficiency with which it has been conducted since the war justify an increasing amount of public confidence and respect.

Problem of Stocks

There is a phase, however, of our present situation to which I ought to refer. Ours, as you know, is a very speculative industry. At the beginning of 1923 there was great anxiety over the problem of obtaining adequate production, and yet the end of the year saw an accumulation of stock which created anxiety by virtue of its very excess. Round the turn of this year it appeared as if the peak had been reached in production, and with a slight falling off in production there was an immediate rise in the price of crude. As soon as this rise had gone forward somewhat, there was a revival in drilling and it is not an impossibility that we will again be faced with a daily production running substantially in excess of current consumption.

The oil industry could not today liquidate all of the petroleum in storage at present prices and get out even on its investment. There are, substantially, 471,000,000 barrels in storage, which would appear to be ample for working balance over daily receipts and refinery runs. The idea that so large an amount in storage, with all the huge costs involved, should be considered necessary, involves a short-sighted view of the industry. The country could stand a draft of 100,000 to 200,000 barrels daily on stocks for months to come and not run near the danger point.

There cannot be and there ought not to be, nor is there, any centralized control to dominate the situation. The ordinary laws of supply and demand ought to have the utmost freedom of opportunity to function. But there is reason to appeal to all members of the industry to exercise sound judgment and wise foresight. There is, indeed, reason to appeal to the entire industry never to lose sight of the fact that the best place to store oil is in the ground and not above ground.

Difficulties Involved

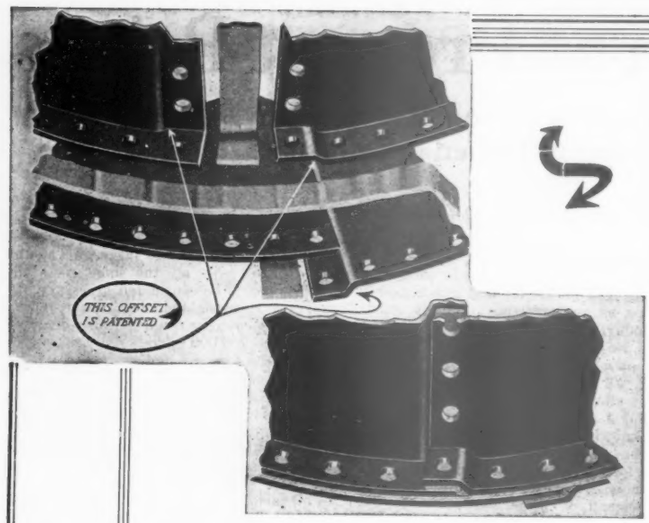
I am not unmindful of the difficulties involved in the situation. I realize perfectly the temptation that always exists to any individual or company to make the most of a situation which may yield a temporary profit under conditions which, if not accepted, may involve a complete loss of the profits. The whole problem is extremely complicated, but so is every business question, and we have only to ask ourselves whether our action at any time is dictated by considerations of immediate selfishness or whether we are taking an enlightened, indeed, a patriotic view of the requirements and possibilities of the long distant future to determine whether of not we are doing a purely selfish or a wise and patriotic thing.

We are faced with very critical conditions. There is the economic problem of production and marketing in our own industry, related intimately as it is to the problem of general business prosperity throughout the country. There is the question as to whether the oil business shall be forced to submit to legislative and regulatory restrictions which have been threatened to be imposed upon it, restrictions which we believe would stifle our opportunity to continue that measure of public service which the progress of the country justifies the nation in expecting us to perform.

Crippling Legislation

We are faced with the possibility that our national Government will enact into law measures of taxation which would vitally cripple not only the oil business but all business. The Senate draft of the pending bill embodies two provisions, which altogether aside from the unscientific treatment of the income surtax, might seriously undermine the prosperity of all business. The provision that tax returns should be subject to public inspection, while plausibly attractive, is fundamentally a blow at all business progress. Secretary Hoover, in his statement a few days ago effectively pointed out the iniquitous character of this legislation. When it is realized that tax returns involve the making of intimate statements as to the details of expenses and incomes by corporations and individuals, it seems almost unthinkable that Congress could consider seriously such a step as compelling publicity for such confidential facts. The Government today has the right on its own account to inspect books of corporations and individuals in order to verify income tax returns. This would seem to insure every interest of the Government and to enforce publicity for such accounts and returns is nothing more than invasion of private

(Continued on Page 126)



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Prompt, Dependable Export Service

MALONEY TANKS

CALIFORNIA METHODS IN NATURAL GASOLINE

(Continued from Page 92)

enters the system at an average pressure of 19 pounds.

"After cooling, by means of the closed type small tube unit heat exchangers, in which the gas is passed around the brass tubes of the apparatus through which cold water is pumped, the gas is admitted to the absorbers. Six million feet per day is now being utilized in a Feld scrubber, or absorber. This absorber is housed in a 6 by 24-foot vertical shell. Nine horizontal cone pans within the shell are rotated constantly. Cooling coils are placed in each pan, enabling the operator to get a greater saturation by means of colder oil. Fresh oil is admitted to the two top pans and is sprayed out by rotating paddles. In some cases, saturation by use of this scrubber is twice the saturation secured by use of the ordinary absorbers. The cooling coils in the oil pans are very effective and as a result, oil and gas admitted at approximately 70 degrees F. is raised only 10 degrees by the heat of absorption.

"A battery of static absorbers is utilized for the treatment of the major portion of the gas. Fourteen of the vertical tubes measure 5 by 54 feet; four measure 7 by 54 feet, and an auxiliary absorber measures 5 by 54 feet. Wooden grids are used to fill the shells of the absorber. Eight of the 5 by 54-foot absorbers are used for treating the gas from the compressors while six of the 5 by 54-foot absorbers and the four 7 by 54-foot absorbers are used in treating the gas forced through the system under well pressure.

"We believe that the California system of using an auxiliary absorber for the recovery of the waste products is much better than the practice of using a recompressor. By the use of the auxiliary absorber a tame product of salable qualities is produced, whereas our experience with recompressors has produced only a wild product of little value to us.

Details of Process

"Strong traps are used to discharge the enriched oil from the absorbers into the vent tank, where the oil is weathered slightly, the evaporation amounting to only 50 or 60 gallons of gasoline daily. Electrically driven centrifugal three-stage pumps take the oil and deliver it at a pressure of 125 pounds to the group of unit-type heat exchangers, then through gravity heat exchangers and then through fire retorts, which consist of tubular stills made up of 48 pipes 3 inches in diameter and 12 feet long, housed in brick. The unit system is developed here also, 10 retorts feeding the heated oil to 10 stills, while one larger unit is operated on four retorts.

"The hot oil from the retort enters the top of a 2 by 10-foot Trumble vertical still, capable of handling 175,000 gallons daily. The oil, admitted at a temperature of 300 degrees F, falls over the distributing pans in the still and is steamed at the bottom. The vapors are released at the side of the still, and the unit-type heat transfer apparatus is used as a dephlegmator, knocking out the heavy ends from the vapors. A separator aids in this work and the vapors from each unit then pass through two Braun horizontal unit-type condensers operated in series at a pressure of 10 pounds. The product is 78.5 gravity with a recovery of from 90 to 95 per cent."

Mr. Rifenberick was emphatic in his praise of the new closed type small tube heat transfer apparatus as utilized in California plants at almost every point. It is being said by Mid-Continent engineers who have inspected the California plants that all that is needed to make gasoline there is a sufficient number of these units, placed at the right points, together with absorbers and pumps. It is a fact, authorized by many engineers, that the development of this type of heat transfer apparatus is the most significant change in the oil absorption process brought out during the past year.

One big feature of the small tube apparatus is the higher efficiency in heat transfer made possible. Mid-Continent practice has been content with spraying the water over the top of a large bank of pipe coils, containing gas cooling coils, oil cooling coils and vapor cooling coils, all in the same coil pit. The result has been that the water sprayed over the hot pipes often became heated during its course from pipe to pipe before it reached the level of the water below. Thus the beneficial effects of evaporation were lost, the heating from the hot oils and gases piped through the pit offsetting to a large extent the cooling secured from spraying the water through the tower. Largely due to this feature, many Mid-Continent plants made more gasoline at night than during the day and also reported increased production during the cooler months of winter.

Cooling Problem

Californians were quick to realize that they would be forced to cool their water effectively as the first step in proper condensation and heat exchange. They have developed the wide-louvre type of cooling tower, which stands 30 to 35 feet high in most cases. No oil or condensing coils are admitted to the pit and as a result the water, even with atmospheric temperature at 110 degrees F. is cooled to a point only 5 to 7 degrees above the wet bulb temperature, after reaching 70 degrees F. At the same time the lower temperature on the water used for cooling is brought out to greater advantage in the unit system of heat transfer in comparison with the common cooling tower and coil pit. The oil and gas are given lower temperatures and greater efficiency is secured by the cooler water through the use of the California method.

In addition to the operating advantages as stated, the small tube units are arranged so that an individual unit may be cut out of the system for cleaning, enabling an efficient cleansing of scale from the tubes periodically and an increase in operating efficiency from this feature. Mid-Continent operators can remember the heavy deposits of scale on pipes in the common cooling coil pit which could not be removed without stopping the operation of the entire plant except at great labor and expense for proper provisions beforehand.

The salvage value of the small tube heat transfer apparatus also is considerable. Large Mid-Continent gasoline plants require immense pits and concrete piers for the huge banks of pipe used in cooling the gas and oil and condensing the vapors. The labor and materials are a total loss in most cases, after the plant is dismantled, even the pipe being worthless after several months of operation. Californians require only small concrete piers for supporting the heat transfer units. The units may be set up quickly and dismantled rapidly with almost a 100 per cent salvage, according to engineers. At the same time the pit and tower used for cooling the water can be salvaged with less loss due to the smaller amount of concrete work.

Centrifugal pumps, operated by 100-horsepower electric motors are used to circulate the oil and water in the Shell's big California plant. Water is circulated at the rate of 3,200 gallons per minute for condensation of vapors and cooling of the oil and gas. These three-stage pumps operate on an 11-inch suction with 5-inch discharge. Oil is discharged at 125 pounds pressure while the water is discharged at 100 pounds pressure. The finished gasoline is pumped by steam duplex pumps 5 miles to the Shell's refinery. Current storage at the plant is provided through 24 insulated horizontal tanks, measuring 6 feet 6 inches by 30 feet. The vapor pressure of the product is maintained on the storage tanks.

Changes Closely Watched

Every effort has been made, according to Mr. Rifenberick, to keep track of every change in the oil, gas and condensate. Toward this end there are numerous

meters on the oil and gas lines, the quantity of each being measured as it enters each absorber. The oil is again metered as it enters its retort. The water is metered at various places and thermometers are placed at salient points to assure good control. Automatic control devices, often utilized in the Mid-Continent, are conspicuously absent at the Shell plant, the idea being to insure a close personal attention at all times on the part of the operators. For metering the fluid, venturi type meters, consisting of a restriction in a pipe with the resulting measurement of the difference in pressure above and below the restriction, are commonly used, thus eliminating friction and additional power necessary in the operation of other types of fluid meters. Orifice meters are used on the gas lines.

Treatment of water is necessary, according to Mr. Rifenberick, zeolites or soda lime being used in most cases. Due to sand conditions in California wells, no vacuum can be pulled at the casing head.

Another large plant was constructed at Santa Fe Springs in 1923 by the Southwestern Engineering Corp. for the Wilshire Oil Co. It started off with an output of 70,000 gallons of gasoline daily which it maintained while the supply of gas remained steady. The unit type in construction was utilized there also along with the new small tube heat transfer apparatus. Many smaller plants have been constructed in the southern California fields which have operated on flush gas efficiently for a short time and which have been torn down and rebuilt in another field with only little loss in salvage. Many of the smaller plants, making several thousand gallons daily are housed on lots measuring 75 by 150 feet.

Mid-Continent gasoline plant engineers and technical men have been quick to realize the advantages in certain features of California gasoline plant construction. Several concerns in the Mid-Continent, now constructing new plants are making use of the California developments. Others are installing the new equipment in old plants. Many others would be benefitted by the use of the equipment and principles brought out by the Californians.

KANSAS FIELDS

(Continued from Page 50)

feet and drilled it to 1,648 feet without getting production. It will probably be plugged. There are several other wildcats in this part of the country, and approximately 20 tests have been started outside of the Lamb Pool for the Wilcox sand. To date, not a one has been rewarded with a showing. This bears out the prognostications of geologists who have maintained all along that the Lamb Pool is a "freak."

Southeast of Clay Center in Clay County, Boggs and others were drilling their No. 1, NE cor. Section 20-9-4e, at 1,800 feet.

About 25 miles west of Wichita in Sedgwick County, Walters and others had a rig on the ground for their No. 1, NW cor. SW, Section 27-27-4w.

In Elk County, the Watchorn Oil & Gas Co. was rigging up its No. 1 Tate, SE cor. SW SW, Section 3-30-9. In the same territory, Roth & Best had 1,500 feet of oil in their No. 4 Porter, CSL SW SW SW, Section 12-29-8, after a shot of 160 quarts in sand at 2,012-48 feet. The same interests abandoned their No. 1 Westfall, CNL SW, Section 13-29-8, as a duster at 3,020 feet.

In Elk County, Roth & Best were drilling their No. 5 Porter, CWL NW NW, Section 12-29-8, at 300 feet, and had a rig on the ground for their No. 6 Porter, SE cor. SW, SW, same section. Roth and others were spudding their No. 1, NW cor. NE SE, Section 14-29-8. Anderson & Anderson found a 6,000,000-foot gasser in their No. 1 Smith, CSL SE SE, Section 21-29-9, from sand at 1,590-1,608 feet.

In Cowley County, Shawver & Sutter were rigging up in their No. 1, NW cor. SW, Section 14-30-4. The Lewis Oil Co.'s No. 1 Brown, NE cor. Section 1-30-5, was a failure, having been plugged and abandoned at 2,814 feet. The Trees Oil Co. had a rig on the ground for its No. 1 Sherwood, NW cor. Section 14-31-4. The Buffalo Trust Co. was rigging up a machine for its No. 8, CWL SW NE, Section 24-32-4. The Arkansas Fuel Co. was spudding its No. 1 Buffington, NE cor. SW, Section 26-31-3.

In the Eastman district, the Phillips Petroleum Co. encountered 15,000,000 feet of gas and 20 bbls. of oil from sand at 2,782-2,821 feet in its No. 1 Stout, NW cor. Section 8-31-6. Shawver and others had a 9,000,000-foot gasser with 6 bbls. of oil from sand at 2,766-2,807 feet in their No. 1 Eastman, NE cor. Section 7-31-6. The Southwestern Petroleum Co. was drilling at 1,926 feet in its No. 1 Eastman, CNL NE NE, Section 6-31-6; No. 3 Eastman, CNL NW NE, same section, was rigging up; and rigs were on the ground for No. 4, NE cor. NW NE, and No. 5, NE cor. same section. Titus and associates had a 6,000,000-foot gasser with 5 bbls. of oil from sand at 2,827-96 feet in their No. 1, SW cor. NE SW, Section 5-31-6. The Lewis Oil Co. was spudding its No. 2 Elliott, SW cor. SE, Section 31-30-6. Terrien & Balliere were building a rig for their No. 1, SE cor. Section 32-31-6.

In the Rainbow Bend area, west of Winfield, the Waite Phillips Co. and others were rigging up their No. 2 Glasgow, C SW NE SW, Section 20-33-3; No. 3 Glasgow, C NW NE SW, same section, was drilling at 430 feet; No. 3 Johnson, CWL SW NW SE, same section, was spudding; No. 2 Wertman, C SE SE NW, same section, was drilling at 360 feet, and No. 3 Wertman, C SW SE NW, same section, was spudding. The Marland Refining Co. was drilling at 985 feet in its No. 1, SW cor. NE, Section 34-33-3.

Greenwood County

In Greenwood County, the Agard Pool continued to furnish good producers. The Roxana Petroleum Corp. shot its No. 2 Marshall, NE cor. NW, Section 34-24-9, with 100 quarts and it was estimated good for 100 bbls. from sand at 2,215-51 feet. Then it was deepened 6 feet and may be shot again. Polhamus and others were cleaning out their No. 10 Marshall, CNL NE SW, same section, after an 80-quart shot in sand at 2,234-79 feet and it was estimated good for 140 bbls. The same interests' No. 4 Dibert, CSL SW NW, Section 3-25-9, was shot with 60 quarts in sand at 2,214-69 feet and produced 70 bbls. afterward. They were also spudding their No. 1 Hendrickson, SE cor. Section 22-24-9. Morgan and others were drilling at 600 feet in their No. 1 Hendrickson, NE cor SE NE, Section 18-25-9, and the Mid-Kansas Oil & Gas Co. was drilling at 300 feet in its No. 4 Ladd, CSL SW SE, Section 19-25-9. The Derby Oil Co.'s No. 12 Moss, CNL NE NW, Section 30-25-9, was good for 100 bbls. after a shot of 50 quarts in sand at 2,380-2,470 feet, making 40.2 gravity oil.

Rigs were on the ground or building for the Transcontinental Oil Co.'s No. 11 Olson, C SW NE SE, Section 11-24-9, and No. 6 Olson, C NE SW SE, same section; the Leonard Petroleum Co.'s No. 2 Holverson, SW cor. Section 23-24-9, and the Mid-Kansas Oil & Gas Co.'s No. 2 Cartwright, NE cor. NE, Section 6-24-10. Rogers and the Mission Oil Co. had a rig completed for their No. 1 Wiggins, NE cor. NW NW, Section 23-24-9.

The Great Southern Oil Co.'s No. 10 Hull, CSL NE SW, Section 2-26-8, was cleaning out after a 100-quart shot and was estimated good for 40 bbls. Sandy shale was found at 2,368-82 feet, sand at 2,382-2,437. First oil came at 2,396 feet.

Northeast of Eureka, Hutton and others abandoned their No. 1 Benedict, SE cor. SW SW, Section 5-25-11, as dry at 2,021 feet.

The Phillips Petroleum Co. had a well estimated good for 40 bbls. before a shot.

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THE COMPASS OF INDUSTRY

It was No. 2 Householder, C NE SE SW, Section 30-22-10, which topped the sand at 2,547 feet and found oil at 2,561-87 feet.

The Phillips Petroleum Co.'s No. 9 Lewis, CWL SW NW, Section 32-23-10, was swabbing at the rate of 350 bbls. after a shot of 225 quarts in sand at 2,242-2,347 feet; No. 10 Lewis, SW cor. NW, same section, was good for 700 bbls. on the swab from sand at 2,230-2,328 feet after a shot of 185 quarts; No. 11, SE cor. SW NW, same section, was making 750 bbls. on the swab after a shot of 195 quarts in sand at 2,242-92 feet; No. 12 Lewis, SW cor. SE NW, same section, was shot with 180 quarts and was swabbing 500 bbls. from sand at 2,223-91 feet, with first oil at 2,243 feet; No. 13 Lewis, CSL SE NW, same section, had a hole full of oil and was drilling at 2,313 feet in sand topped at 2,260 feet; No. 14 Lewis, SE cor. NW, same section, was drilling at 1,140 feet, and No. 20 Lewis, CEL SE SE NW, same section, was drilling at 450 feet.

Agard Pool Producers

Other producers completed in the Agard Pool included Henderson and others' No. 5 Helman, SE cor. SW NW, Section 14-24-9, which was shot with 135 quarts and made 190 bbls. on the pump from sand at 2,138-2,206 feet, and the same interests, No. 6 Helman, NE cor. NW SW, same section, which was good for 100 bbls. after a 70-quart shot in sand at 2,154-89 feet, with first oil at 2,136 feet. They were spudding No. 7 Helman, CSL SW SW, same section. McGinnis and associates treated their No. 6 Agard, CEL SE NW, Section 14-24-9, with 195 quarts in sand at 2,080-2,173 feet and it produced 125 bbls. Their No. 6 Brotton, SE cor. SW NW, same section was estimated good for 50 bbls. after a 60-quart shot in sand at 2,154-74 feet. Total depth was 2,197 feet, and there was some casing trouble. Rogers and others' No. 3 Agard, CWL SW NE, same section, was a 125-bbl. producer after a 190-quart shot in sand at 2,102-95 feet. The Leonard Petroleum Co.'s No. 1 Helverson, NW cor. Section 26-24-9, was making 70 bbls. of oil and 50 bbls. of water from sand at 2,156-2,217 feet.

A near-record for depth was established by the Orlando Petroleum Co. when its No. 1 Breitkrantz, SW cor. NE SW, Section 4-24-10, was abandoned at 4,800 feet. J. Rogers and others' No. 1 Cartwright, NE cor. NW, Section 6-24-10, which swabbed at the rate of 300 bbls. initially after a shot of 190 quarts in sand at 2,262-2,330 feet, was making only 130 bbls. on the pump.

In eastern Greenwood County, the Theta Oil Co. had a small well in its No. 18 Schneider, CNL SW, Section 10-23-13, which was good for 25 bbls. from sand at 1,766-89 feet, and was not helped by a 40-quart shot. The same company's No. 19 Schmeider, C NW SW, same section, was drilling at 850 feet. Across the line in Coffey County, the Manhattan Oil Co. abandoned its No. 10 Elliott, NE cor. SE SW, Section 14-23-13, at 1,828 feet. The Cosden Oil & Gas Co. was spudding its No. 2, NW cor. SW SE, same section. Back on the Greenwood County side, the same company's No. 6 Shindler, CNL NW SW, Section 15-23-13, was good for 250 bbls. after a 60-quart shot in sand at 1,541-65 feet. The St. Louis Oil & Refining Co. was drilling its No. 7 Kurebler, SE cor. NE NE, same section, at 930 feet. The Tidal Oil Co.'s No. 7 Shindler, CEL NE SE, same section, was shot with 160 quarts in sand at 1,800-50 feet after topping the lime at 1,770 feet, and responded with 60 bbls. The Skelly Oil Co. had a small well in its No. 1 Long, SW cor. NE, Section 17-23-13, which topped the lime at 1,756 feet, found sand at 1,766-77 feet and made 15 bbls. after a 20-quart shot. The Cosden Oil & Gas Co. abandoned the location for its No. 2, NW cor. SE, Section 23-23-13. The Peerless Oil & Refining Co. was drilling at 690 feet in its No. 7, CNL NW SE NW, same section.

In the northern part of Greenwood County, the Empire Gas & Fuel Co.'s No. 3 Killeson, C NW SW NW, Section 14-22-11, was worth 147 bbls. from sand at 1,887-1,926 feet following a treatment of 80 quarts. A new test was spudded by the Phillips Petroleum Co. in its No. 1 Kern, SE cor. Section 21-22-11. The same company's No. 3 Hilliard, CEL NE SW, Section 33-22-11, topped the sand at 1,903 feet, picked up first oil at 1,912 feet, and passed through the sand at 1,940 feet, going 2 feet deeper. Following a shot of 120 quarts, it made 150 bbls. of 40.2 gravity oil.

Considerable new work was being pushed in this area. R. G. Gillespie was spudding No. 2 Bangs, C NW NW SW, Section 16-22-10; Rhodes and others were drilling at 300 feet in their No. 5 Pees, CWL SW NE, Section 17-22-10, and were drilling their No. 7 Browning, C SE SW SW, same section, at 1,420 feet; Gillespie was drilling his No. 2 Browning, C SE NE NE, Section 19-22-10, at 800 feet, and was spudding No. 3 Browning, C NW NE NE; Rhodes & Able had a rig on the ground for No. 3 Browning; the White Eagle Oil & Refining Co. had a rig in place for its No. 1 Browning, C NE SW NE, Section 19-22-10; the Sinclair Oil & Gas Co. was drilling its No. 2 Browning, C NW NW NW, Section 20-22-10, at 400 feet, had a rig on the ground for No. 3 Browning, C NE NW NW, and another rig for No. 4 Browning, C SW NW NW, same section, and the Greenwood Petroleum Co. was drilling at 1,775 feet in its No. 3, NW cor. NE NW, Section 31-22-10.

Fisher, Locke & Moore had a rig in place for their No. 1 Bell, C NW NE SE,

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THE OIL BUSINESS AND THE OIL GAME

(Continued from Page 24)

$114,000,000 in 1914 to $57,000,000 in 1915. In 1916, however, it jumped to $272,000,000—in 1917 to $332,000,000—and with the government restrictions on financing in 1918 the new capital dropped to $131,000,000 that year.

With the close of the war the year 1919 saw these 250 companies add $707,000,000 of new capital which brought their total capital stock outstanding December 31, 1919, to $2,501,939,914. Of this amount the 108 old companies account for $1,341,261,560 while the 142 new companies account for $1,160,678,354. The cash dividends paid by these 250 companies aggregated over $84,000,000 during 1912, and increased in amount, but not in ratio, to over $165,000,000 during 1919. The percentage of cash dividends paid by these 250 companies varied from about 6½ per cent to about 10½ per cent over the eight-year period.

Aladdin-like stories of fabulous "wealth from oil" have been broadcast to the ends of the world, with immeasurable harm to the real petroleum industry. It is true that a few oil companies and a comparatively few individuals have attained "wealth beyond the dreams of avarice." While there are many "oil millionaires" there are thousands of oil men that are constantly on the ragged edge of poverty—and for every "gusher" there are probably 500 small wells. In the light of the "gusher millionaire" stories that fascinate the "tenderfoot" readers of our newspapers and popular magazines, the dividend percentages paid by the 250 companies as shown in Table 3 are interesting to say the least.

The Standard Oil Companies, the most marvelous and most efficient industrial organization in the world today, old, established, with a real "world vision" of oil, conservative as to financial policy and progressive as to growth and expansion, have paid large dividends in both cash and stock to their stockholders. Many of the 73 "Independents" in Group 1 have also been good investments—but the struggle to "get oil" by the 142 new companies has been so hard, and the most

(Continued on Page 123)

DROP IN BURBANK POOL OFFSET BY NEW WORK

(Continued from Page 37)

1,275 feet and was drilling ahead at 1,475 feet. Madlin and others abandoned their No. 1 Bean, NE cor. SE, Section 15-21-13, as dry at 1,850 feet. Four other dusters in this area were C. Fields and others' No. 4, NW cor. SE SE, Section 28-21-13, at 1,865 feet; E. N. Wallace's No. 1 McCarthy, SW cor. NW NW, Section 7-21-14, at 1,388 feet; the Hancock Oil Co.'s No. 3 Coudrey, NW cor. SW SW, Section 1-20-12, at 2,113 feet; and R. S. Matthews' No. 1 Howarth, NW cor. SE, Section 12-20-12, at 2,205 feet. The Tidal Oil Co. was deepening its old well, No. 10 Twist, SW cor. NE SE, Section 14-20-12, at 1,700 feet.

A. R. Simmons topped the Oswego lime at 760 feet in his No. 1-A Partridge, CWL NW SE NW, Section 4-19-12, and was drilling at 1,000 feet. The Sand Springs Home's No. 5 Berryhill, NW cor. NE, Section 7-19-12, was estimated good for 400 bbls. from the Burgess sand with the bit only a foot in the formation topped at 1,599 feet. B. F. Caldwell and Sons were drilling their No. 1 Gaylord, CWL NW NW NW, Section 8-19-12, at 600 feet. The Six and One Oil Co. was also drilling iits No. 1 Townlot, CNL NW NW, same section, at 810 feet. Thornton and others were drilling their No. 1-A Berry, CNL SE SW, Section 20-19-12, at 960 feet.

In Muskogee County, C. A. Hutchenson was rigging up his No. 3 Lee, NE cor. SW SW, Section 35-15-16.

In southern Wagoner County, J. F. Smith and others encountered a gas sand good for 3,000,000 feet in their No. 1-A NE cor. NW NW, Section 8-16-16, in sand at 900-12 feet, and the well was shut in.

New Work in Tuskegee

New work in the Tuskegee region of southern Creek County was flowing over into other sections adjacent to Section 31-14-10. The Cosden Oil & Gas Co. was building a rig for its No. 1 Mitchell, SW cor. NW, Section 32-14-10, and staked a location for its No. 1 Flannigan, SW cor. NW, Section 34-14-10. The Shaffer Oil & Refining Co. was also building a rig for No. 3 Scott, SE cor. NW SE, Section 31-14-10 and was drilling at 800 feet in No. 2 Scott, NW cor. SE, same section. The same company's No. 1 Scott, NE cor. NW SE, same section, swabbed 125 bbls. in the first 24 hours from sand at 3,423-34 feet before the shot. It was showing a little water, also.

The Independent Oil & Gas Co. had a rig up for its No. 3 Scott, NE cor. SE, Section 31-14-10, and had spudded and shut down its No. 2 Scott, SW cor. NE SE, same section. The Burke & Greis Co. was rigging up its No. 2 Barnett, SE cor. NE, Section 31-14-10.

Jones & Jenkins found a freak pay sand in their No. 1 Tiger, NE cor. SE SE, Section 8-14-10, and completed it as a 50-bbl. pumper from sand at 282-87 feet. At this shallow depth, it produced oil of 50-4 gravity, and after standing two days, pumped 150 bbls. in the first 15 hours, settling down after that, however, to 50 bbls. daily. The same interests intend to sink a twin hole to the deeper sand.

The Cumberland Oil Co. was drilling at 620 feet in its No. 1 Harry, NE cor. NW NW, Section 27-15-10. The Atlantic Oil Producing Co. and others were drilling at 255 feet in their No. 1, SE cor. NW SE, Section 17-15-9. O. R. Howard was spudding his No. 5 McNae, NW cor. NE, Section 16-16-9.

The Flesher Petroleum Co. abandoned its No. 1 Lasley, SE cor. NW, Section 7-17-8, as dry at 3,611 feet. The Roland Oil Co.'s No. 1 Morrison, SE cor. SE NE, Section 25-17-8, was a 9,000,000-foot gasser from sand at 2,680-2,715 feet. The Olean Petroleum Co. was spudding its No. 5 Washington, SW cor. SE SW, Section 32-17-8, and had a rig up for its No. 2 Wills, CEL NE NE, Section 6-16-8, an old well. The Red Bank Oil Co. was also depening its old well, No. 1 Myers, NE cor. SW, Section 16-16-8, at 2,950 feet. The Peters Petroleum Co. was spudding its No. 2 Arsoyales, NE cor. SW NW, Section 22-16-8, and the Lorraine Petroleum Corp. was drilling deeper in its No. 2 Deere, SE cor. SW NE Section 23-16-8, at 3,220 feet.

Okmulgee County

In Okmulgee County, W. C. Wilson's No. 1, NE cor. SW, Section 3-15-11, was shot with 40 quarts in sand at 2,145-53 feet and made 30 bbls. afterward. Charles F. Noble abandoned his No. 2 Jefferson, SW cor. NE, Section 19-15-12, as a duster at 1,728 feet. The Tidal Oil Co. plugged back to 2,182 feet from 2,243 feet in its old well, No. 2 Kanard, NW cor. SW SE, Section 28-15-12, and shut it in as a 500,000-foot gasser in sand at 2,156-2,240 feet. Thompson & Jordan were rigging up to deepen their old well, No. 1 Cole, NE cor. SE SW, same section.

A rig was on the ground for A. Preston's No. 1, SW cor. NW NE, Section 35-14-11. Gardner & Simmons abandoned their No. 2 Tholocco, SW cor. NW SW, Section 14-14-12, at 2,170 feet.

The Southern States Oil Corp. was spudding its No. 1 Henry, SE cor. Section 20-12-13. The Kingwood Oil Co. had a rig on the ground for its No. 1, CWL NW SW, Section 30-12-14, McIntosh County. A duster was also abandoned in McIntosh County by Montague Tex. It was No. 1 Blood, NW cor. SW NW, Section 2-12-16, and was plugged at 3,865 feet.

In the southern end of Okmulgee County, the Aztec Oil Co. abandoned its No. 7 Jacobs CNL NE SW, Section 6-11-12, at 2,031 feet. The Phillips Petroleum Co. was drilling at 2,748 feet in its old well. No. 1 Fish SW cor. NW SW, Section 18-11-12.

The Roxoline Oil Co. was drilling at 765 feet in its No. 5, C NE NW, Section 21-14-14, and P. H. Stine was below 960 feet in his No. 14 Flint, SE cor. SW, Section 26-14-14. Archer and Carpenter were drilling at 605 feet in their No. 3 Perryman, CWL NE SW, Section 32-14-14.

The Stebbins Oil & Gas Co. was drilling its No. 3 Morgan, CNL NE NW, Section 23-13-11, at 900 feet, and the Waite Phillips Co. had a rig on the ground for its No. 4 Murrell, CNL NW NW NE, same section. The Barbara Oil Co. abandoned its No. 1 Lovett, NW cor. Section 3-13-12, at 2,360 feet. Galbraith and associates also plugged their No. 2 Fields, CWL NW NW SE, Section 24-13-12, as a duster at 1,965 feet.

The Gladys Bell Oil Co. and others were spudding their, No. 5 Mitchell CWL SW NW, Section 6-12-12, and Mitchell was rigging up No. 10 Randall, C NE NE NW, Section 30-12-12.

New Tests in Cromwell

In northern Seminole County, F. J. Searight had a rig on the ground for No. 1, SE cor. NE SE, Section 33-10-6.

In the Cromwell area, new tests continue to be started. The Carter Oil Co. was building a rig for its No. 2 Yarhola, SW cor. NE SW, Section 22-10-8, and the Shaffer Oil & Refining Co. was spudding its No. 4 Yarhola, C SE NW NW, same section.

East of the Wewoka Field, the Magnolia Petroleum Co. was drilling at 690 feet in its No. 1 CWL SW SE SE, Section 25-8-7. To the north, W. R. Ramsey and others furnished a disappointment with their No. 1 Townsite, CEL NE NE SW, Section 19-8-8, which was dry at 3,404 feet. The Roxana Petroleum Corp. was rigging up rotary tools for its No. 1 C NW NE NW, Section 12-8-8.

In the field proper the Dixie Oil Co. had a rig on the ground for its No. 3 Long, C SW NW SW, Section 33-8-8. The Prairie Oil & Gas Co.'s old well, No. 1 Scott, C NE SW SW, same section, was good for 760 bbls. natural the first 24 hours from sand at 3,173-88 feet. The Dixie Oil Co. was drilling at 280 feet in its No. 2 John Long, C SE NE SE, Section 32-8-8. The Magnolia Petroleum Co. was spudding its No. 1 Harrison,

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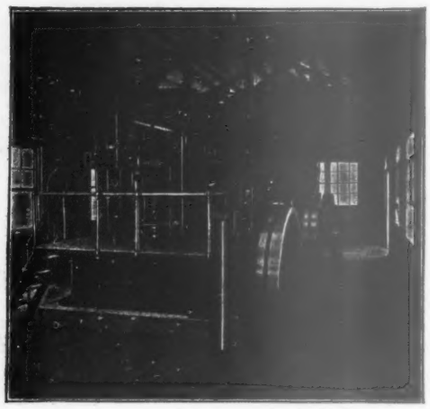

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C SE SW NW, Section 29-8-8. The Dixie Oil Co.'s No. 2 Walker, C NE NE SE, same section, made 1,444 bbls. natural and 1,082 bbls. the second 24 hours from sand at 3,105-26 feet. The same company had a rig on the ground for its No. 2 Sams, C NW SW NW, Section 28-8-8.

Near Holdenville in Hughes County, the Turman Oil Co. was drilling at 850 feet in its No. 1, C SW SE SE, Section 5-7-9.

Deepening of the Papoose Oil Co.'s No. 2 Simon in the C NE SE SW, Section 4-9-9, resulted in an output of 40 bbls. from sand at 3,349-54 feet. The gas in the Kingwood Oil Co.'s No. 2 Davis, C SW NW SW, Section 3-9-9, increased to 25,000,000 feet and it was spraying 50 bbls. of oil from sand at 3,291-3,303 feet.

Graham-Fox Area

In the Graham-Fox area of Carter County, the Magnolia Petroleum Co. was spudding its No. 5 Lahman, C SE NE SW, Section 23-2s-sw. The Cameron Refining Co. had a rig up for its No. 1, C SE NE SW, Section 24-2s-3w, and was rigging up a rotary for No. 2, a location west. The Magnolia Petroleum Co. found sandy shale at 2,645-53 feet in its No. 2 Smith, C SW SE SW, Section 24-2s-3w, and sandy lime at 2,678-83 feet and sand at 2,683-93 feet. It made only 3 bbls. with total depth at 2,810 feet. The same company's No. 3 Smith, C NW SE SW, same section, was good for 200 bbls. from broken sands at 1,906-2,375 feet. The same company's No. 8 Lahman, C NW SE NE, Section 25-2s-3w, picked up a showing of oil at 2,526-31 feet, and 3,000,000 feet of gas at 2,630-38 feet. Total depth was 2,971 feet. The same company's No. 5 Nelson, C NE NW NW, same section, made 250 bbls. from broken sands at 1,980-2,380 feet, with total depth at 2,746 feet. The Magnolia's No. 1 Faulkner, C SW NW NE, Section 30-2s-2w, was dry and abandoned at 3,445 feet. Another duster plugged as dry was the Healdton Petroleum Co.'s No. 2, C NE NW SE, Section 31-2s-2w, which was abandoned at 2,951 feet.

The Schermerhorn Oil Co.'s No. 2 Dickerson, C NE NE SW, Section 5-3s-2w, was plugged back from 3,400 feet to 3,135 feet and was producing 160 bbls. from sands at 3,045-56, 3,072-81 and 3,113-21 feet. The Atlantic Oil Producing Co. was swabbing 60 bbls. from its No. 2 Hamilton, C NE SW NW, Section 5-3s-2w, total depth being 2,902 feet. The Magnolia Petroleum Co.'s No. 7 Woodworth, CWL SW SE SE, Section 32-3s-3w, an old well, was making 25 bbls. from broken sand at 1,025-1,131 feet.

Southeast of Ardmore, the Iowa Oil & Refining Co. was spudding its No. 1-A SE cor. SW SW, Section 17-5s-1e.

Hewitt Area

In the Hewitt area of Carter County, the Wolverine Oil Co. was having some casing trouble at 2,505 feet in its old well, No. 15 Dillard, CSL SE NW SE, Section 22-4s-2w. The same company's No. 85 Dillard, C SE NW SW, same section, which was good for 496 bbls. initially from the lime pay at 2,982-3,110 feet, was making 150 bbls. The Rockland Oil Co. plugged back its No. 7 Dillard, CNL NE SW NW, Section 22-4s-2w, from total depth of 4,165 feet to 3,500 feet where it was producing 50 bbls. on the pump from sands at 2,710-32, and 3,329-54 feet. The Carter Oil Co. was drilling at 940 feet in its No. 17 Hefner, CNL NE NE SW, same section, and was moving in a rotary for its No. 18 Hefner, CSL SW NW SE same section.

In southeastern Grady County, Gant, Becker & Frates were moving in rotary tools for their No. 1, C SW NW, Section 11-3n-5w.

Western Stephens County

In western Stephens County, the Magnolia Petroleum Co.'s No. 1 Johnson, NE cor. Section 24-1s-9w, an old well, was making 2,000,000 feet of gas from sands at 1,864-70, 2,030-34 and 2,069-77 feet. Old total depth was 2,034 feet. The Base Line Oil Co. was rigging up a rotary for its No. 4, NE cor. SE SW, Section 25-1s-9w. Fisher & Brannon were drilling at 400 feet in their No. 2 CSL SW NE NW, Section 22-1s-8w. A rotary rig was in place for the Amerada Petroleum Corp.'s No. 11, SW cor. NE NE, Section 32-1s-8w. The Magnolia Petroleum Co.'s No. 17, C NW SW NE, Section 33-1s-8w, pumped 190 bbls. the first 24 hours and 165 the second from sand at 2,607-21 feet.

Gant and others found 9,000,000 feet of gas in their old well, No. 2, CWL SW NE NW, Section 2-2n-5w, from sand at 1,212-15 feet.

In Jefferson County, the Humble Oil & Refining Co. was drilling at 500 feet in its No. 1, CNL NE NE NW, Section 19-7s-5w.

In the northeastern corner of Kingfisher County, the Jens Marie Oil Co. had a rig on the ground for its wildcat test, No. 1 Hawk, C NW SE, Section 7-19-5w.

CALIFORNIA FIELDS

(Continued from Page 40)

up and, although it is still cutting about 5 per cent, the company has hopes this will be reduced in time. The Ramsey Oil Co.'s No. 1 Flower State came up to expectations when finished and is rated as a 1,450-bbl. producer. It was brought in from 4,814 feet after being finished with a 6¼-inch oil string including 724 feet of perforated casing. The output, flowing through a one-half-inch bean under a pressure of 450 pounds, tests 25.4 degrees and shows a cut of 3 per cent. The Shell Oil Co. put one new well on production and recompleted two others after redrilling and deepening. The new well was No. 3 Kent brought in from an even 5,000 feet as a 205-bbl. pumper of practically clean 25.8 gravity oil. The company also made an effort to put No. 1 Kent on production at 4,629 feet but the best the well would do on the beam was 10 bbls. of low gravity oil which showed a cut of 75 per cent. The Shell's two recompletions were No. 1 Pala and No. 3 Cherry Hill. The latter was an exceptionally good well, starting off at 925 bbls. but increasing the following day to 1,350 bbls. without any change being made in the size of the bean. The oil, coming from 4,425 feet, is clean and tests 26.8 degrees. No. 1 Pala, finished at 4,875 feet, was a much smaller and less satisfactory well. Flowing through a seven-eighths-inch bean under a pressure of 320 pounds, it made 600 bbls. of 27.1 gravity oil, which showed a cut of 10 per cent. The Union Oil Co. was successful in putting two new wells on production but both the quantity and quality was disappointing. Both were on the company's Long Beach Community lease, the individual wells being Nos. 8 and 11. The former is producing under a severe handicap, being originally drilled to 5,002 feet and later plugged back to 4,850 feet. While being drilled, several hundred feet of drill pipe was lost and as a result there is over 600 feet of open hole. Upon its completion, however, the well produced 215 bbls. of 18.6 gravity oil, which is cutting a little over 15 per cent. No. 11 was a pumping well put on the beam at 4,665 feet but it, too, shows a rather large cut, 10 per cent. The maximum daily output was 55 bbls. but for several days it has been doing only about 40 bbls. The Nevada Signal Syndicate, after drilling its No. 1 A Gregg to 4,522 feet and failing to secure production, plugged back to 4,434 feet. It was put on the beam at the latter depth and pumped 200 bbls. of 24.8 gravity oil, which showed a cut of 2 per cent. The United Oil Co. finished the last well put on production during the week and was rewarded with a 400-bbl. producer. It was put on the pump at 4,285 feet and is listed as a 350-bbl. well, the oil testing 21.8 degrees and showing a cut of 10 per cent.

Santa Fe Springs

The only development work of interest at Santa Fe Springs during the past week was the successful plugging back from the Meyer to the Bell zone of the U. S. Royalties' well No. 4 and the Petroleum Midway Co.'s well No. 4 on Mattern lease No. 2. The former, originally

drilled to 4,718 feet, was plugged back to 3,800 feet and the 6¼-inch casing perforated between 3,700 and 3,800 feet. Upon being put on the pump, it made 270 bbls. of 29.8 gravity oil which showed a cut of 1 per cent. The Petroleum Midway Co.'s well No. 4 was plugged back from 4,725 to 4,075 feet. Upon its recompletion, the well pumped 160 bbls. of clean 29.2 gravity oil during the first 24 hours.

With the exception of two completions and the abandonment of three holes, things were pretty quiet at Huntington Beach. The larger of two wells brought in was the Standard Oil Co.'s No. 14 Bolsa Chica. It was finished at 4,680 feet and, flowing through a one-half-inch bean under a pressure of 150 pounds, it produced 470 bbls. of 25.8 gravity oil. The Shell was the only other company to successfully complete a producer and its No. 7 Ashton, which has practically taken a year to finish, was only a small well. It was drilled to the deep sand and at 4,962 feet water necessitated the plugging back to 4,409 feet. It is pumping 200 bbls. a day of 23.6 gravity oil, which shows a cut of 2 per cent. All three abandonments made during the week were by the Standard Oil Co. No. 1F, No. 2F and No. 2G were officially listed as dusters.

Field Operations

Oil field operations reported to the State Oil and Gas Supervisor show 31 new wells started, compared with 30 during the previous week, a total for the current year to date of 578, compared with 595 at the same date last year. There were 47 tests made for water shut offs and 20 deepening and redrilling jobs. Abandonments totaled 8, compared with 4 during the preceding week. The following new wells wells were started in the principal fields:

Torrance

Location, Company, Well—
23-4-14 Bonded Oil Syndicate 2.
C. C. M. O. Co.—
15-4-14 Del Amo 15.
Fullerton Oil Co.—
16-4-14 Cotton 6.
16-4-14 Cotton 8.
Petroleum Midway Co., Ltd.—
8-4-14 Dawson 1.
16-4-14 Gilman 1.
Sentinel Oil Co.—
24-4-14 Joughin 8.
24-4-14 Joughin 9.
Shell Co.—
24-4-14 Kettler 12.
24-4-14 Kettler 13.
24-4-14 Kettler 14.
24-4-14 March 6.
24-4-14 Scarborough 2.
Standard Oil Co.—
15-4-14 Marble Fee 8.

Domingues

United Oil Co. 1.
2-4-13 Domingues 1.

Midway-Sunset-Elk Hills

12-12-23 Charles A. Son 1.
26-32-23 Mascot Oil Co. 4.
24-31-23 Midland Oilfields Co., Ltd. 7.
Midway Oil Co.—
26-32-23 Alpine 5.
2-32-24 Pacific Oil Co. 2.
Pan American Pet. Co.—
6-31-26 Crampton 13-A.

W. KENTUCKY-TENNESSEE

(Continued from Page 54)

wells were completed. On the Jack S. Smith farm, Lowman Brothers' No. 1 started off at 100 bbls. at 536 feet. It was drilled 1,500 feet east of the shallow producer on the H. V. Smith and makes it look as though there might be a good pool discovered in this vicinity. The shallow well on the H. V. Smith is still holding at around 10 bbls. and is over two months old. The Olive Green Oil Co. finished No. 5 McLemore, 400 feet west of No. 4, at 551 feet. It started off at 50 bbls. and then went on water which is still being pumped. The persistent showing of shallow oil with great quantities of salt water in this portion of the field will probably lead to considerable leasing to the east or higher up on the now very well defined structure. Lowman Brothers' well was the first shallow well to show no salt water and it is situated structurally about 25 to 30 feet higher than any other shallow wells that have yet been met with in that area. Lowman & Bolling scored another success in their No. 5 Ben Rice, 425 feet southeast of No. 4. This well finished at 1,207 feet and made 25 bbls. the first pumping. Shale was found from 1,031 to 1,126 feet, pay from 1,81 to 1,198 feet was shot with 60 quarts. On the Adams lease, Cunningham's No. 2, made a 4-bbl. pumper at 1,293 feet; shale from 1,090 to 1,154 feet, pay from 1,236 to 1,245 feet.

In the Davenport Pool, the Westland Oil Corp.'s No. 23 C. A. Keller pumped 15 bbls. at approximately 1,100 feet. In the northeast extension area, the Ohio Fuel Oil Co.'s No. 1 Grider-Lay extended the field 1 mile to the northeast. This important well found the pay from 1,087 to 1,091 feet, with shale from 918 to 1,011 feet, and is a strong 5-bbl. pumper. In the extension area to the northwest of the Davenport Pool, Makeever Brothers' No. 7 Young was dry at 700 feet, in the Mississippian lime. This well is important as marking a boundary of the Sandidge Pool which has not yet been well defined.

Two miles south of Richmond, near the Simpson County line, H. V. Taylor's No. 8 Smith showed for 12 bbls. in the Mississippian lime at 464 feet.

In Eastern Warren County, on Bays Fork Creek, Toms and associates' No. 2 Motley made 2 bbls. on jack at 377 feet, approximately 40 feet below the shale.

Allen County Completions

The best well in Allen County was completed in the Kerley Pool, midway between the Keen and Mitchell pools, by Work and associates, on the Guy farm, in No. 5, which made 250 bbls. at 265 feet. Four previous tests drilled on this property were barren. No. 5 is now shut in for storage and is showing considerable water. In the same vicinity, Forrest and others' No. 4 Lyles was reported dry. Four offsets have been spudded in around the Guy well. The Unique Oil Co.'s No. 3 Lucy Boucher made 3 bbls. on power at 250 feet.

In the Keen Pool, Cunningham and associates' No. 12 Mayhew, 90 feet from the No. 30 Shelton, which came in at 415 bbls. a short time ago, is an 8-bbl. pumper at 333 feet. No. 13 is being rigged up.

T. A. Sheridan's Nos. 13 and 14 on the Fannie Gibson, in the Gainesville district, made 11 and 2 bbls. at 362 and 361 feet, respectively. In the same area L. R. Robinson's No. 14 Fee was dry at 410 feet. On the J. L. Brown farm, McMullen & Ragel's No. 4 showed for 2 bbls. after shot at 346 feet.

Cumberland County News

The most important well completed in the Kettle Creek Pool since its discovery two years ago was No. 6 Kerr of the Gartlan Estate. This well, dry in the Sunnybrook sands, was drilled 10 feet below the Pencil Cave and produced 80 bbls. the first pumping. This is the first well below the cave to show production in paying quantities and will lead to great activity in this district. The horizon has shown very productive in the old Standard Oil Co.'s Salt Lick Bend wells, in the Judio Creek area, at Bear Creek and Sulphur Creek. On the Widow Logan farm, adjoining the Bud Kerr, the Daniel Boone Oil Co. got a 50-bbl. starter in the second Sunnybrook sand at 460 feet in its No. 5.

In the Sulphur Creek section, W. S. Raydure's No. 2 Riddle is showing for 20 bbls. in the second Sunnybrook. This well was originally a good pumper in the first Sunnybrook. On the famous A. Huddleston farm, the Combest Oil Corp. got a dry hole in its No. 6 in the sand below the cave and was abandoned at 1,050 feet.

On Galloway Creek, Combest & Morris got a dry hole in No. 3 on the Hunter Short farm at 160 feet. It was much higher on the structure than either Nos. 1 and 2, which were good producers.

In Clay County Tennessee, 4 miles south of the Cumberland County, Kentucky line, Spayne and others finished No. 1 Neveins, on Neeley's Creek, for 100 bbls. naturally at 400 feet. This well was a simon pure wildcat. The structures in Clay County look like a continuation of those found so productive at Kettle Creek. The pipe line is only a few miles away now and this strike

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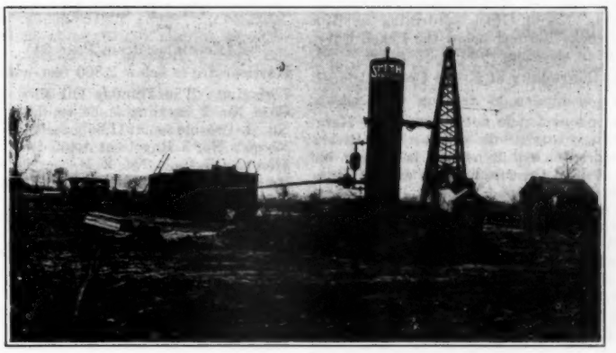

Taking Advantage of Gravity

The installation of a Smith Oil and Gas Separator shown above was made for the Westland Oil Co., in 4-19-12, near Vern Station, west of Tulsa. It handles the productions of wells No. 1 and No. 2 on the W. G. Bruner lease.

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should lead to a big pay around Celina during the summer.

Drilling in Cumberland

At Bear Creek, E. M. Treat & Co. is moving its rig from No. 3 to No. 4 location about 400 feet to the northwest. No. 3 is pumping at the rate of 75 bbls. daily from the stray sand. The Paragon Development Co.'s No. 2 M. L. Spear is proceeding at 600 feet. The stray sand found in the Riddle & Dickens wells at 160 feet below the Black shale was absent. Wilcox Brothers are fishing for a broken stem in No. 2 Sarah Sheckles lost at 750 feet.

In the Sulphur Creek district, the Kanawha Oil Co. is making hole at 600 feet in the No. 3 Williams. Combest & Morris' No. 2 Groce is drilling at 640 feet about 130 feet below the Pencil Cave with no showing.

In the vicinity of Kettle Creek, Colonel Petit is rigging to drill on the Dodson lease about 1 mile northwest of the Kerr property toward the Cumberland River. The Dayton Oil Syndicate is rigging its No. 4 Kim Crawford, north of the Kerr. The Daniel Boone Oil Co. is spudding its No 6 on the Widow Logan, adjoining the Kerr.

Wilcox Brothers' No. 1 Rein, in the vicinity of Burkesville, is going ahead at 653 feet. Pencil Cave was struck at 588 feet. At 653 feet sand was tapped and indications point to a good well. W. S. Raydure has made a location on the W. G. Carry lease on the Broad Branch between Potters and Galloway Creek. Reports from Clay County, Tennessee, state that No. 1 Stover is drilling at 330 feet and that drillers are fishing for tools in No. 2 Stanford.

Owensboro District

Four wells were completed in the Owensboro district and all made good pumpers in the Barlow sand. The Kentucky Oil Co.'s No. 13 Amanda Stewart, 400 feet east of No. 13, is good for eight bbls. at 738 feet; C. E. Daugherty's No. 6 F. V. Miller, 400 feet north of No. 1, made seven bbls. on pumping jack at 732 feet; the Pennsylvania-Indiana Oil Co.'s No. 3 Abe Howe 45 acres, 400 feet east of No. 1, showed for eight bbls. at 740 feet. On the J. W. Reardon place the Leeper Oil Co. finished No. 3 for three bbls. at about 732 feet.

Barren County Work

All the completions of the week in Barren County were reported from the Emery-Moore Pool west of Glasgow. The best was Fred Moore's No. 3 Travis, which made 16 bbls. at 470 feet. Shale was found from 202 to 252 feet and the pay from 453 to 467 feet, which was shot with 30 quarts. On the Joe Starr place, Norris Brothers got a three-bbl. starter in their No. 1 at about 530 feet. Ziegler Brothers' No. 1 Mansfield was a disappointment as it only made one bbl. at 540 feet.

Ed Allen's No. 1 Gassaway, three-quarters of a mile southeast of the pool, was dry. Wells now drilling will probably result in defining the limits of this very prolific pool within next month. The Wood Oil Co. has leased considerable acreage to the north of the pool and will start a test on the Church farm at once. This company has let contracts for drilling three wells in this area.

The only completion reported from Simpson County was that of Martin & Houck on the E. Smith farm, abandoned in the shallow pay at 490 feet.

NARROW QUOTATIONS IN COASTAL MARKET

HOUSTON, Tex., May 19.—Softness was evident throughout the market on zero cold test oils toward the end of last week. The market seemed to run in sympathy with that of other sections. So far the result has been a narrowing of the range between the high and the low columns of the quotation list. Products are moving at figures comparable with the past six weeks but in quoting, salesmanagers are sending out very close figures.

The narrow range in quotations is due in part to the close buying of jobbers. There is considerable shopping in the market at present. After inquiries are sent, the dickering goes even further than the custom of accepting the lowest price. Jobbers are holding eff in the hope of getting still further reductions. It is in the effort to get down to exact figures that refiners have lessened the spread in quotations.

While this closer buying is evident, there is no slackening in demand or in shipments. Both inquiries and orders are as numerous as earlier in the spring.

GULF COAST

(Continued from Page 54)

Harrison fee is below 2,860 feet with No. 7 rigging. The Humble Oil & Refining Co.'s No. 2 Sterling is below 3,900 feet. No. 1 Crosbie is at 1,655 feet. W. B. Flynn's No. 3 Ray is at 1,405 feet. The Mecom Oil Co.'s No. 2 Mecom is working over at 3,150 feet. The Link Oil Co.'s No. 3 Rivere is at 2,565 feet. The Houston Production Co.'s No. 1 Taylor is sidetracking at 2,024 feet. On the north side, the Yount-Lee Oil Co.'s No. 2 Stengler is sidetracking at 2,220 feet.

On the northeast side the Gulf Production Co.'s No. 19 Morris-Phillips came in at 3,510 feet, flowing 2,000 bbls. The Humble Oil & Refining Co.'s No. 11 Hankamer is drilling at 1,155 feet. The Gulf Production Co.'s No. 11 Morris-Phillips is rigging to work over. On the east side, the Republic Production Co.-Houston Oil Co.'s joint No. 81 Dolbear is drilling at 3,090 feet. No. 82 is below 2,700 feet and No. 83 is starting. On the southeast, the Gulf Production Co.'s No. 33 Phoenix, a workover, is fishing at 3,250 feet. No. 40, a new hole, is drilling at 3,280 feet. No. 41 is around 2,140 feet and No. 42 is drilling at 2,075 feet with a location made for No. 43.

Three of the wells drilling in the Hull Pool are below 4,000 feet and one of these is nearing 5,100 feet.

Harris County Pools

In the Humble Pool, the Southern Petroleum Co. worked over No. 41 Landslide and it is pumping 175 bbls. Company is rigging to work over No. 39 Landslide and has a location for No. 42-B, which will be a shallow test. Thayer Brothers No. 6 Rosenthal is pumping 60 bbls. at 1,100 feet. Rosenthal and Long are drilling No. 1 Rosenthal. Charles D. Page of Tulsa has a location for test west of the pool, which will be a wildcat.

In the Goose Creek Pool, the Humble Oil & Refining Co.'s No. 10 Tabb bailed dry at 2,430 feet. The Sun Oil Co.'s No. 13 Bartlett-Smith is pumping 300 bbls. at 2,495 feet. The Gulf Co.'s No. 19 Smith is a 200-bbl. pumper at 2,550 feet, after working over. Its No. 7 Tucker is pumping 80 bbls at 3,500 feet. It is a workover also.

The Gulf Production Co.'s No. 11 Briggs is drilling at 3,370 feet. No. 5 Wright is deepening from 2,600 feet where it showed salt water. No. 20-A Wright is drilling at 3,967 feet. No. 14 H. Galliard is below 2,810 feet. No. 7 Chapman-Bryan is drilling at 4,345 feet. Derricks are up for Nos. 5 Rucker and 29 Beaumont. The Humble Oil & Refining Co.'s No. 51 Galliard is at 2,230 feet. No. 27 Peninsula is below 2,643 feet. No. 3 Harrell is around 4,400 feet. No. 11 Schilling is working over at 1,975 feet and No. 23 is drilling below 3,710 feet. No. 26 Sweet is below 3,320 feet. No. 50 Smith is drilling at 870 feet. A derrick is up for No. 56 and No. 57 is below 2,700 feet.

The Brooks Oil Co.'s No. 4 Wright is at 1,120 feet. The Gulf Coast Oil Co.'s No. 39 Galliard is around 1,825 feet. The Sun Oil Co.'s No. 9 Bartlett-Smith is rigging to work over. Bassett Blakely's No. 7 Schilling is at 1,875 feet. Northwest of production, the Hisgen Petroleum Co.'s No. 2 Busch is drilling below 2,230 feet. In the Bay the La Porte Oil Refining Co.'s No. 5 Freeman is drilling at 1,708 feet. Over on Spillman Island, the J. R. Copeland Oil Co.'s No. 2 is below 2,910 feet.

Four of the 19 wells drilling in the pool are below 4,000 feet and the deepest of these is nearing 4,600 feet.

At Pierce Junction, the Atlantic Oil Producing Co.'s No. 1 Ross is below 2,400 feet. The Gulf Production Co.'s No. 15 Taylor is at 3,760 feet.

Brazoria County Pools

The Sinclair Oil & Gas Co. has three rigs in operation at Damon Mound. At West Columbia, the Gulf Production Co.'s No. 3 Masterson is working over at 2,300 feet. A location has been made for No. 7 Tom Hogg. The Sun Oil Co.'s No. 5 Robertson is working over at 2,980 feet. The Humble Oil & Refining Co.'s No. 2 Badge is drilling at 3,600 feet and No. 2 Smith at 3,340 feet. No. 6 Tyndale-Wyoming is working over at 2,280 feet. The Texas Co.'s No. 13 Hogg is going on the beam at 3,410 feet after being worked over. Company is rigging No. 80 Hogg and No. 11 Abrams.

Fort Bend County Pools

At Big Creek, south of Richmond, the Gulf-McSweeney and Snowden joint No. 12 Davis is bailing at 3,200 feet. Rich and others' No. 1 Ahlers is below 3,250 feet.

At Blue Ridge, the Mutual Oil Co.'s No. 2 Booth on the west side is still flowing 1,200 bbls., 29 gravity oil. The Texas Co.'s No. 11 Robinson is drilling at 4,655 feet. On the east side of the dome, the Gulf Production Co.'s No. 6-B Blakely is drilling below 2,145 feet and on the south side, same company's No. 5 West-Schenck is at 2,240 feet.

Other Pools

At Spindletop, the Gulf Production Co.'s No. 203 Gladys bailed dry at 900 feet. The Stella Oil Co.'s No. 1 Schingler is bailing at 850 feet and Wilson and Broach's No. 46 Higgins is bailing at 675 feet.

The Baker Oil Co.'s No. 11 Trombly is drilling at 740 feet. The Gulf Co. is starting No. 206 Gladys. Sheffield and others' No. 1 Conklin is rigging up. The Eddy Oil Co.'s No. 6 Line Acre is drilling at 665 feet and the Unity Oil Co.'s No. 83 McFadden at 1,100 feet.

In the Markham Pool, the Rycade Petroleum Co. is preparing to set screen and test No. 1 Gray at 3,270 feet. Same company's No. 2 Hudson is below 4,275 feet.

South Louisiana Pools

In the Vinton Pool, Marrs McLean's No. 5 Gray is bailing at 3,460 feet.

The Gulf Refining Co. is rigging No. 1 Gray and deepening No. 33 G. N. G. with No. 39 G. N. G. drilling at 2,425 feet. The Sun Oil Co.'s No. 2 Johnson is shut down. Wilson-Broach No. 8 Parks is drilling below 1,415 feet. The Texas Co.'s No. 10 Gray is deepening at 2,280 feet. The Just Oil Refining Co.'s No. 2 Lyons is at 3,675 feet and No. 1 Weeks has been spudded in. The Gulf Coast Oil Co.'s No. 7 Lucky Four is at 2,845 feet. The Vinton Petroleum Co.'s No. 46 Gray is at 1,909 feet. Its No. 24 Gray bailed dry and will be drilled deeper.

In the Jennings Pool, The Texas Co. abandoned No. 19 Latrielle at 2,030 feet. The Coastal Fuel Oil Co.'s No. 87 fee is bailing at 2,230 feet after depening and the Gulf Refining Co.'s No. 32 J-C. is bailing at 2,000 feet.

The Rycade Petroleum Co. has the deepest test in the pool in some time, drilling No. 2 Latrielle below 3,370 feet. The Robinson Oil Co.'s No. 4 Robinson is at 670 feet. R. H. Hines is trying to pull the screen from No. 3 Martin at 1,380 feet to drill it deeper. It showed salt water.

Abshire and others are starting No. 1 Abshire in Acadia Parish. The Yount-Lee Oil Co. has a derrick for No. 1 fee in Jefferson Davis Parish and the Vacuum Oil Co. is starting No. 3, north of Lake Charles.

The Johnson Bayou Prospecting Co. has a location for No. 5 about three-quarters of a mile west from No. 4, now drilling near 1,000 feet. These are formation tests, drilled with a light rotary rig and gasoline engine.

Three similar tests have been drilled by the Humble Oil & Refining Co. in the vicinity of Perry Landing, Brazoria County, Texas. The Freeport Sulphur Co.'s No. 1 at Bryan Heights in that county is now below 1,765 feet.

The Gulf Production Co.'s No. 3 Ray on the south side of the Boling Dome in Wharton County is below 925 feet. Nos. 1 and 2 were abandoned between 475 and 500 feet in dome formation. No. 3 is located about 1,000 feet south from No. 2 Ray.

Calliham District

In the Calliham district in McMullen County, the South Texas Oil Co.'s No. 3 Calliham is a 20-bbl. pumper. The Houston Oil Co.'s No. 3 Cartwright is blowing gas in Live Oak County at 2,100 feet. The Southern Gas Co.'s No. 8 Lark is credited with 30,000,000 feet of gas at 700 feet. It is between the old gassers on the Jacobs land and the Frio River on the south. The Black Panther Oil Co.'s No. 1 Nichols, north of Three Rivers, is drilling below 600 feet.

In Live Oak County, the Houston Oil Co.'s No. 3 Cartwright will pull back and test a gas sand at 2,100 feet. The hole was drilled to around 4,100 feet when the drill pipe twisted off and an unsuccessful fishing job followed. No. 4 Cartwright is drilling below 2,150 feet.

Down on the Rio Grande River border, in Zavella County, Hadley & Harmon's No. 1 Pryor ranch is rated as a 15,000,000-foot gasser at 1,810 feet. The Sun Oil Co. has a gas well to the east of the Pryor tract, drilled in about one year ago. The gas will be cased off in the Hadley & Harmon well and the hole drilled deeper, to possibly 3,500 feet. The Humble Oil & Refining Co.'s test in the southwestern corner of Bandera County, is fishing at 3,000 feet. The Clark Oil Co. has locations for three tests in Uvalde County between the Humble Co.'s test and the Hadley & Hamon gasser. The Witherspoon Oil Co.'s No. 1 Brisco, in Medina County, is below 1,700 feet. It is some 2 miles west of production in the Somerset Fields. Same company is rigging for a test in the southeastern part of Medina County on what is known as "High Point" structure.

The San-Balt Oil Co. has started No. 6 Stitz in the Calliham district and Anglin & Kepley No. 1 Bryne. In Live Oak, Welsh and others' No. 1 Brown is drilling.

Rockdale-Minerva

In the shallow sand section of Milam County, the Owens Refining Co. reduced the quotation to $1.80. It is taking practically all of the production. Croker's No. 1 Roark is making 30 bbls. by heads at 990 feet and the Noark Oil Co.'s No. 1 Roark is credited with 30 bbls. at 1,013 feet. The Texas Petroleum Co. is bailing No. 1 Phillips at 1,063 feet and No. 2 at 1,023 feet. The latter is 600 feet north from No. 1. Baggett Brothers are rigging No. 2.

Luling Field

The Magnolia Petroleum Co. posted 75 cents for Luling crude, reducing the quotation from $1. That has been the highest figure for Luling crude, although a premium of 25 cents has been paid in one instance. The Magnolia Co. posted $1 on February 4, last, and reduced it to 75 cents May 10.

Field workers out of employment are warned to stay away from Luling. Many idle men have congregated there and these are being added to as operations are being curtailed. Many rigs have shut down and but few of the new locations are being rigged to drill. The structure on the Guadalupe County side of the San Marcos River is apparently defined to the southwest and north and there is no hurry to drill up the inside locations. The price cut has added to the uncertainty. The Texas Co.'s No. 4 Allen came in early in the week, making 2,500 bbls. pinched in, but later dropped to 900 bbls., showing 45 per cent sediment and water. The bottom of the hole is 2,007 feet. No. 7 Allen started at 70 bbls. by

heads at 2,100 feet and is now making 100 bbls. Both are a little to the north and west of previous wells and are considered edge locations. The United North and South Oil Co.'s No. 1 Allen is a gasser and is being used to supply fuel for drilling wells. It is near the Gulf Royalty Oil Co.'s No. 1 Allen, also a gas well. The United North and South's No. 3 McKean started at 2,000 bbls. initial flow. The Grayburg Oil Co.'s No. 2 Allen is drilling in.

The Texas Co. has completed a 30-car loading rack at Sullivan siding on the Southern Pacific Railroad and connected it with the field by a 4-inch and 6-inch line.

The Magnolia Petroleum Co. is drilling No. 4 Merriweather in the old district on the Caldwell County side of the river. On the Guadalupe County side, new tests include the J. K. Hughes Development Co.'s No. 15 Allen, the United North and South Oil Co.'s Nos. 5 and 8 Baker near the river; J. E. Walsh's No. 1 Smith. The Big Gusher Oil Co. expects to resume work on No. 1 Walker, 2½ miles southeast from the center of the old part of the field.

Montreal and London. The plans also call for a 20,000-bbl. refinery at Port Aransas and a tank farm, the site for both of these having been purchased. The company claims to have made a contract recently for 450 miles of 8- and 10-inch line pipe with the National Tube Co.

Laredo Districts

In the Aviator Pool in Webb County, the Rydale Oil Co.'s No. 1 Puigg is pumping 100 bbls. at 1,760 feet. The Magnolia Petroleum Co. cut crude from 80 cents to 75 cents. The Texpata Pipe Line Co.'s quotation remains at 80 cents. In the Los Ojulas Pool, the Cin-Tex Oil Co.'s No. 5 is good for 125 bbls. at 1,735 feet. The Kirkpatrick Leasing Co. is bailing No. 1. Howard's No. 1 Albertas is showing gas. J. E. Neal abandoned No. 2 fee at 2,534 feet.

The Associated Oil Co. set casing in No. 9 in the Aviator Pool at 1,688 feet. The Andrews Petroleum Co.'s No. 3 is deepening. O. W. Killiam's No. 3 is below 1,500 feet. In the Mid-Ojulas Pool, H. H. Palmer's No. 1 fee is drilling around 1,725 feet. The Shasta Oil Co.'s No. 4 is at 780 feet. Wheatley's No. 8 is drilling around 1,600 feet. The Richmond-Gracia Oil Co. started Nos. 4 and 5 and the Cin-Tex Oil Co.'s No. 6. The Laurel Oil Co. is shut down on account of litigation. In the Wolcott Pool, the Magnolia Petroleum Co.'s No. 7 is drilling with a rig at 1,720 feet. No. 8 has spudded in. The Weslaco Oil Co.'s No. 4 is around 1,600 feet. In the Carolina-Tex gas district, the Associated Oil Co.'s No. 1 is around 800 feet. Morgan & Gibbs spudded in No. 2. In the northern part of the county, the Boyd Oil Co. (Humphreys) is drilling No. 1 Petty.

In Jim Hogg County, the Pippin Oil Co.'s No. 1 Randodo is showing some gas at 1,700 feet and No. 2 is drilling at 975 feet. Tyson and other's No. 1 is testing at 1,500 feet.

In Atascosa County, the Witherspoon Oil Co. is drilling No. 2 Wells and the Rock Cliff Oil Co.'s No. 1 Brown. The Humble Oil & Refining Co. has started Nos. 1 Flato and 1 King, in Kleberg County, southeast of Kingsville, following the drilling of several shallow formation tests. A. H. Smith is drilling No. 3 on Palangana Dome, in Duval County, where two previous tests showed sulphur deposits. The Peoples Oil & Gas Co.'s No. 1 Appelscheimer, north of Mercedes, is reported showing oil and casing is being set at 2,955 feet.

Stafford & Shell are setting casing in the test that showed oil at 800 feet in San Augustine and a test will be made of the 12-foot sand. John Deering is starting No. 2 Harris in Sabine County. The Vanderbilt Petroleum Co. is preparing to resume drilling the test shut down at 1,500 feet, south of Edna, in Jackson County.

Out in Reagan County, the Wrightsman Petroleum Co. has a location for No. 1 in the center of Block 1, B. C. subdivision 39, L. E. and S. V. Railway survey.

The Texas Exploration Co. is setting 6⅝-inch casing in No. 17 Warren at Hockley Dome, Harris County, at 2,700 feet. The Texas Co.'s No. 2, near Danbury is drilling below 2,315 feet. In Fort Bend County, the Neilan Oil & Refining Co.'s No. 3 Thompson is around 3,700 feet. The Oil Production Co. is starting No. 3 Ahlers and the Pathfinders Oil Co. has a location for No. 3, between Big Creek and Damon Mound. The Gulf Development Co. has a derrick standing for No. 3 Erie Townsite.

Gusher in Cotton Valley Field Soon Goes to Salt Water

SHREVEPORT, La., May 21.—The Ohio Oil Co.'s No. 3 Hodges, in Section 15-21-10, Webster Parish, started off at 460 bbls. an hour from sand at 2,546 feet on Tuesday. It flowed six hours at this rate and was shut in to put a choker on the liner. Afterward it would not flow. It was bailed and began flowing through a 1½-inch choker at the rate of 700 bbls. a day of which 50 per cent was salt water. The well is in the Cotton Valley district and is located a quarter of a mile west of the discovery well.

R. E. ANDERSON HEADS WISCONSIN JOBBERS

MILWAUKEE, Wis., May 17.—At the annual meeting of the Wisconsin Independent Oil Jobbers which was held at Milwaukee on May 14, the chief matter was the election of officers. The report of the nominating committee was approved and R. E. Andrews of the Pennsylvania Oil Co., of Madison, Wis., was chosen president. Secretary Burt Rentmeister was reelected as was the Board of Directors. The debate in the closed meeting was largely relating to tank wagon declines, but acting on the advice or suggestion of President Nicholas of the N. P. M. A. no concerted action was taken. It was decided that price reductions were a local matter at present and should be handled by individual organizations locally. Marketers and representatives of the refiners who attended stated that they secured very little business as the result of their trips.

NAME NEW COMMITTEE FOR MARLAND COMPANY

NEW YORK, May 17.—A new executive committee, composed chiefly of those associated with J. P. Morgan & Co., has been named by the Marland Oil Co. It will have general charge of the company's operations.

George Whitney, a partner in the firm of J. P. Morgan & Co., was one of the members of the executive committee named. He succeeds S. W. Hayes as a director. The new committee will be composed of E. W. Marland, president; W. H. McFadden, W. G. Lackey, vice president; William G. Potter, president of the Guaranty Trust Co.; George Whitney of J. P. Morgan & Co.; Charles Smithers of F. S. Smithers & Co.; E. N. Potter of Potter & Co.; Leonard F. Taylor and Charles E. Stephenson, secretary.

THE OIL BUSINESS AND THE OIL GAME

(Continued from Page 118)

for new money in big blocks has been so insistent, that even though these 142 new companies in eight years sold stocks and bonds aggregating almost $1,125,000,000 and though many of them have built up large properties, they have been able to pay back to their stockholders, during the same eight years, only about $118,000,000 in cash dividends, as compared with over $788,000,000 in cash dividends by the 108 old companies, during the same eight years.

To further illustrate the urgent need for vast amounts of new capital, refer to Table 3 and note that the entire capital stock of the 108 old companies outstanding at the end of 1911 was $682,000,000—and that the "new capital" added by the 250 companies in one year, 1919, was over $707,000,000. This is more new capital added in one year than the entire outstanding capital stock of the 108 old companies at the end of 1911.

We are today producing crude oil at the rate of about 700,000,000 bbls. a year, and in order to bring in enough new wells to "keep the production up" to the industrial needs of the country, the oil companies are today spending approximately $500,000,000 a year in drilling operations alone, to say nothing of additional expenditures in other lines of the business.

The period of the World War, roughly marked by the six years from 1915 to 1920, inclusive, furnishes one of the most marvelous stories of "frenzied finance" that the world has ever seen.

The skeleton of the story is furnished by Table 4—the flesh and blood by the billions of dollars that the "investing public" poured with a lavish hand into what it thought was the "Oil Business"—but what proved, in most instances, to be the "Oil Game."

Reverting for a moment to the 250 companies you will recall that they represented probably 95 per cent of the production, the transportation, the refining and the marketing of the petroleum industry in the United States. This percentage, in the aggregate, is probably, conservative—and it is probably true that all of the other oil companies in the United States, at the end of the year 1919, represented only about 5 per cent of the total petroleum industry.

The startling difference between the capitalization, dividends and service rendered by the 250 companies that represented 95 per cent of the industry, and the greater part of the thousands of other companies that represented 5 per cent of the industry, is emphasized by comparing Table 4 with the three preceding tables. In 1915 there were 196 companies organized for over $80,000,000—in 1916 there were 240 organized for over $419,000,000. Note the increase in number of companies and the amounts for which they were organized during the next four years—and you will see the essence of the difference between the "Oil Business" and the "Oil Game." In these six years 5,109 companies were organized for an aggregate capitalization of $8,343,792,000.

While there are no figures available showing the aggregate cash received from the sale of stock in these 5,109 companies capitalized at over $8,000,000,000, it is probably fair to assume that because of the amazing ease with which new oil companies sold their stock during this particularly favorable period, "the public" actually bought and paid for at least one-third of the total amount for which these 5,109 companies were capitalized.

It is a well known fact that among these 5,109 oil companies there were hundreds of companies that were absolutely legitimate, that were organized by men of the highest ability and integrity, that were sanely financed, ably managed and that paid good dividends to their stockholders.

It is also well known that among these 5,109 companies the overwhelming majority were promoted by crooks, financed by grafters, managed usually by novices, and that in most instances not only were there no legitimate dividends but that the assets were either wholly lost or fell into the hands of more substantial companies—in any event with almost total loss to the original stockholders.

If one-third of the total capitalization of these 5,109 companies was actually raised in cash (or about $2,7000,000,000) it means that, in six years, these 5,109 companies raised $2,700,000,000 with which they created 5 per cent of the oil industry—while 250 companies, during 50 years, secured from the public $2,500,000,000 with which they created 95 per cent of the industry.

One of the most constructive things that any government can do is to cooperate intelligently and sympathetically with the great industries of the country, to the end that those industries may serve the great mass of the people better. "The greatest good for the greatest number." And if "service is the supreme justification for corporate existence," then, in the aggregate, the 250 companies above referred to stand supremely justified. During 50 years ending with 1919 they issued stock to the amount of about $2,500,000,000, they paid back to their stockholders over $900,000,000 in cash dividends—they created out of this money, and by "plowing back" into the business a large part of their surplus earnings, an industry that today has assets roughly estimated to be worth from $8,000,000,000 to $10,000,000,000. These 250 companies have produced the greater part of the 5,000,000,000 bbls. of crude oil produced in the United States to the end of the year 1919—they have laid nearly every mile of pipe line in the United States, they own almost all of the 130,000 tank cars, almost all of the hundreds of tank steamers, almost all of the refineries that are actually in operation today, and the great majority of the world-wide organization for distributing refined products to practically every civilized country on the globe.

Along with these 250 companies are a few hundred (of the 5,109) that have created real assets and that today are real, substantial oil companies, even though in the aggregate they bulk small compared with the aggregate assets of the 250 companies.

The American public is faundamentally fair-minded. For years it has been a disgruntled owner of hundreds of millions of dollars of worthless "oil stocks"—but when it sees clearly that the real trouble was not with the "Oil Business" at all, but with the "Oil Game," then it is not going to be difficult for the real oil business to secure the hundreds of millions of dollars a year of new money that it must have in order to produce the crude oil necessary to keep the wheels of practically every other industry moving.

The oil business is not a willing patient for political quacks—nor for government ownership. Neither should it be subjected to Government regulation to any greater extent than any other great industry. Probably it should have much less of government regulation than most other industries, because of the peculiar conditions under which crude oil is found and produced. Certainly, in the marketing of refined products, the industry should not have our government, either State or National for a competitor.

The loss, in the "Oil Game," between 1915 and 1920, of the greater part of probably $2,500,000,000 is what is really rankling in the minds of hundreds of thousands of investors scattered from one end of the United States to the other. And these hundreds of thousands of holders of worthless oil stock certificates are by no means confined to the "common people." There is a liberal sprinkling from all the professions, along with business men in every line, bankers, city officials, members of State Legislatures, members of Congress—and what not. Nearly all of us have our "little block of oil stock."

But, being fair-minded American people, isn't it about time that we made up our minds to place the blame where it really belongs—that we gave the real oil industry as clean a bill of health as we cheerfully give the automobile industry, and other great industries—and that we bend every effort to curb the pernicious activities of those warped, devious individuals and corporations who wax fat in "the danger zone" of every industry—and more especially oil.

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

MAIL your advertisement now. It will be published next week. Cash with order.

LEASES—PRODUCTION

OKLAHOMA

Jefferson County—We are informed Clark & Cowden discovery well sold to Magnolia. The Humble now down 536 feet. Both wells bear on our offerings. Prices now $10 to $100.

TEXAS

Carson County—Acreage one-half to 4 miles of drilling well, 8 miles north of town of Panhandle. Now, $10 to $75.

The Sun Co., The Texas Co., and Empire own adjoining our acreage. Write or wire for list and latest reliable information.

We consider both counties good.

TEXAS-OKLAHOMA LEASE CO.
1418 Kirby Bldg. Dallas, Texas.

WHITE SPACE at the top and bottom of an advertisement makes it conspicuous. Ask for it in your next advertisement. Figure the cost at regular rates per line.

MARATHON FOLD AND TEXAS PANHANDLE

LEASES in Reagan, Crockett, Pecos, Terrell, Glasscock, Sterling, Gray, Carson, Armstrong, Donley, Wheeler, Hemphill and other counties in Marathon Fold and Texas Panhandle. Lowest prices; best locations. Write for free maps and reports. P. R. MacIntosh, 215 Neil P. Anderson Bldg., Fort Worth, Texas.

ADVERTISING RATES

The cost of advertising in the Classified Wants Section is very reasonable. It costs 25 cents a line for the first insertion and 15 cents a line for each following insertion. Six words usually make a line. Cash with the order.

This useful table will help you to figure the cost of advertising in this Classified Section. Keep it for reference:

	One Time	Two Times	Three Times	One Month
3 lines..	$ .75	$1.20	$1.65	$2.10
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6 lines..	1.50	2.40	3.30	4.20
7 lines..	1.75	2.80	3.85	4.90
8 lines..	2.00	3.20	4.40	5.60
9 lines..	2.25	3.60	4.95	6.30
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FOR SALE OR LEASE—One of the best built small refineries in Texas, located at Wichita Falls, Texas, about 1,200 bbls. capacity; fully equipped and ready to run; all in first class condition. Will lease to responsible parties or sell on easy terms. Address, Jonas Kiser, Dan Waggoner Building, Fort Worth, Texas.

10c AN ACRE

We have many leases in counties surrounding San Antonio, along the Balcones Fault and along the Marathon Fold from 10 cents an acre up. Here are a few of them:

Guadalupe County	$3.00 an acre
Pecos County	$1.00 an acre
Medina County	50c an acre
Gillespie County	10c an acre
Kerr County	25c an acre
Atascosa County	$2.00 an acre
Karnes County	$2.00 an acre
Zapata County	$1.25 an acre
Bexar County	$3.00 an acre
Hays County	30 an acre
Sterling County	$1.00 an acre
Coke County	$1.00 an acre
Irion County	$1.50 an acre
Bandera County	40c an acre
Wilson County	$3.00 an acre
Comal County	35c an acre
Travis County	35c an acre

The above prices are in 10-acre tracts. Prices are even less in larger tracts. All leases are standard, Form 88, five-year leases and most of them are brand new leases. All of the above leases are on hand and delivery can be made immediately. Write for particulars and maps. No obligation.

GULF REALTY COMPANY
280 Bedell Bldg. San Antonio, Texas.

LEASES—PRODUCTION

NORTHERN COLORADO—We are offering very attractive oil and gas leases and royalties on approved structures. Write or wire Moffat County Investment Co., Craig, Colo.

KENTUCKY oil and gas leases for sale near production; drilling wells and on good structure. Write me for map and description. F. L. James, Box 194, Edmonton, Ky.

YOU WILL always be right in reading this Classified Section, as it is the best Petroleum Publication Classified Section in the world. It will help you.

FOR SALE—At bargain prices, oil and gas leases, production and royalties in the Kentucky shallow fields. For full particulars and maps, address W. P. Harley, Bowling Green, Ky.

THE RIGHT SPOT—Place one bet in Cumberland County, Kentucky. Good leases can be bought reasonable. Write Richardson & Goff, Columbia, Ky.

ARTESIA, New Mexico, Oil Field Leases. Near production; present workings, future trend or anywhere in eastern New Mexico; 40-acre unit leases or blocks for drilling contracts. McDonald & Jewett, Roswell, New Mexico.

WEWOKA

Anyone wishing to acquire acreage in the Wewoka district or Seminole County and desiring information, may address G R. Jordan, Box 161, Wewoka, Okla.

OIL AND GAS LEASES in Eastern Kentucky. Have leases around all wildcat drillings. Also have 25,000 acres blocked in Floyd, Martin and Pike Counties at 25 cents per acre. George S. Engle, Ben Ali Bldg., Lexington, Ky.

FOR SALE—200-acre lease with five wells located in Douglas County, Kansas. Several offsets to be drilled against wells on adjoining lease, which came in from 25 to 150 barrels. Address Box X Y Z, care The Oil and Gas Journal, Tulsa, Okla.

McMULLEN and Live Oak Counties, Texas, recognized today by the leading oil men and geologists as the coming big oil field of South Texas. Choice commercial leases. Large and small tracts. Drilling contracts. Acreage in fee with all mineral rights. Bargains; easy terms. Prices advancing rapidly. Bank references furnished. Gulf Leasing Co., 525 Brady Bldg., San Antonio, Texas.

WEWOKA—Oklahoma's newest oil field; have high class or cheap leases and royalties for sale, in Sominole, Pottawatomie and Lincoln Counties. W. R. Turner, 2123 Warren Ave., Chicago, Ill.

FREE MAP

Of Sheffield Terrace (Marathon Fold) to those interested in leases. We have leases in dozens of counties along this fold and our prices are the lowest. Get particulars. No obligation. Gulf Realty Co., 283 Bedell Bldg., San Antonio, Texas.

SHEFFIELD TERRACE
(Marathon Fold)

Oil leases; no cheap acreage; all good property, surrounded by properties of the largest oil companies; well located structurally and in line with present drilling activities; prices right; long term leases and low rentals; 23 years in leasing business; 13 years in Texas. Act quick; write for maps and particulars. C. W. Webster, 1001-1002 W. T. Waggoner Bldg., Fort Worth, Texas.

McCLAIN COUNTY, OKLAHOMA

Prominent producing fields on all sides; the next four months, without doubt, will witness rapid development from all directions, toward this central area, wherein I own four 160-acre tracts. Will sell any two quarter sections, if action is prompt, at $3 per acre; lease dates September, 1923; rentals 50 cents per acre. A legitimate speculation at a low price, when the prominence of the location is seriously considered. Address John J. Dillon, P. O. Box 194, Denver, Colo.

LEASES—PRODUCTION

160 ACRES oil land in Darke County, Ohio. Will sell lease, including one producing well, or will sell land, which is highly improved farm land with good buildings, including all oil rights at an exceptional bargain. Good investment. Address Box 480, Ft. Recovery, Ohio.

GUARANTEED OIL PRODUCTION

No Oil No Pay
Consult Us Before Drilling

STERLING OIL PRODUCERS
209-10 Bliss Bldg., Tulsa, Okla.

IF I had my Wants listed in this section they would receive the same attention that thousands are giving the good advertisements already here.

OIL AND GAS LEASES

2,500 ACRES in three distinct groups; 303, 710, and 1,500 acres; all favorably located on best structure; near production and drilling wells in Kentucky shallow field, (Metcalf County) where big development is now under way. These leases are located in the right spot for an important play in the immediate future; will sell very reasonable; separately or as a whole. Write for map and descriptive list. Quick action very necessary.

WILLIAM MARTIN
Lock Box 145 Burnside, Ky.

TEXAS LEASES

We have many Texas County leases. Guadalupe County, $3 an acre; Medina County, 50 cents; Zapata, $1.25; Pecos, $1; Bandera, 40 cents; Blanco, 15 cents; and many other counties. All new five-year Form 88 standard leases. Write for maps and full particulars.

GULF REALTY CO.
281 Bedell Bldg. San Antonio, Texas.

MISSISSIPPI OIL LANDS are due to yield the next great oil field. Producers are watching it; 80 per of oil production is from the Tertiary and Cretaceous formations; 80% of the area of Mississippi is of this era and can be reached by the drill. I can give prospectors valuable aid if they are willing to pay for it. R. S. Withers, 418 Edwards Hotel Bldg., Jackson, Miss.

Production
Drilling Blocks
Leases and Royalties
Geological Value Given Preference
J. M. Allen
902 Petroleum Bldg., Tulsa, Okla.

COLORADO

Oil and gas leases; Moffat County, from 80 acres to 5,000, $5 per acre, up. First well in this field is making 4,500 bbls. Get in before the big advance. Have several good propositions for drilling contracts. Canary Oil Leasing Corporation, 303 Patterson Bldg., Denver, Colo.

4,920 ACRES, Colorado. on structure, must sell; $10 per acre, fee simple, and 3 per cent royalty reserved. Surface is worth more for ranch. Form your organization and buy quickly. May be worth $50,000,000 soon. Would take $30,000 three-year loan. F. J. Shindler, Deertrail, Colo.

SALE—The NW quarter of Section 12, Township 24, Range 12 east, Greenwood County, Kansas. Will be sold at 2 p. m., May 29, 1924, at the Court House, Eureka, Kans., to the highest and best bidder for cash. Property equipped with 18-foot Mascot band wheel power, 25-h. p. F. & M. oil engine and other equipment to extent of $35,000. Has seven 1,700-foot producing wells three years old, making 30 bbls. of 41:50 gravity crude. From 10 to 12 proven locations to drill.

ROYALTIES for sale on active structures in northern Colorado. Thomas P. Corbett, 2244 Fifteenth St., Boulder, Colo.

LEASES—PRODUCTION

800 ACRES in Rangley oil pool, Colorado. Oil wells offsetting; snap. 1411 Monroe St., Wichita Falls, Texas.

BUY OIL LEASES—Ahead of development; McClain County, Oklahoma, ridiculously low prices; direct land owner. Joe Crawford, Purcell, Okla.

FROM NOW ON, when I want to do business with the real men of the petroleum industry, I'm going to put my advertisement right here in this Classified Wants Section.

BROKERS—We have more proven acreage than we can develop. Wells completed and equipped, $5,000. Attractive offer and complete details on request. Mid-Continent Oil Lease Corp., Continental Bldg., Oklahoma City, Okla.

THE HULL OIL FIELD
Liberty County, Texas

Two tracts of 76 acres for lease in southwest part of field; part of one tract one-quarter mile from David Hannah tract and near production.

OWNER, BOX 27
South Orange, New Jersey

FOR SALE OR LEASE

The owner of the following tracts, all of which have producing wells of long standing immediately adjoining on at least two sides and production on one or two of the tracts will entertain offers of responsible parties.

First—To drill and lease the tracts separately or as one lease, but must give bond to drill the several tracts at once.

Second—Will sell the property as one proposition in fee or each tract separately.

Third—Will drill and equip 25 wells this year; the average depth being 1,000 feet, or a total of 25,000 feet in all on various tracts and deliver one-half undivided interest in the whole property in fee for $50,000; half cash and $1,000 when each well is completed.

Fourth—Will sell the whole property for $60,000; half cash and balance in three yearly payments of $10,000 each.

The property consists of warrants Nos. 696 and 685 in Cherry Grove Township, Warren County, Pennsylvania, with old wells on both sides of each tract in the Cooper sand and Elk County gas sand just below. These tracts lay well for drilling operations.

18 Acres in Triumph Township, Warren County, Pa., being part of Owens tract, near Tidioute. This tract is covered with heavy timber with oil production on all sides.

356 acres in Tionesta Township, on Allegheny River, between the Little Tionesta Creek and Indian Camp Run; wells on two sides and across river opposite property.

Two small tracts at Baum, Venango County, of 6 and 3 acres, with production on all sides. These tracts never drilled.

77 acres at Henry's Bend, Venango County, Pennsylvania, and 12 old wells, one of which was drilled by C. W. Heydrick in 1868 and producing now ¼-bbl daily.

Production above 50 bbls. monthly. equipment in best possible shape, with Franklin Valveless engine and 2-eccentric power.

180 acres at Henry's Bend, on the Allegheny River, and known as Heydrick farm, over 100 acres cleared, with good barn and fair house; production on all sides and one well just drilled on this tract; not connected to power.

Other equipment—One Star drilling machine No. 25, with boiler and all tools including 1,800 feet of new ⅞-inch wire line; good sand line; two stems; bailers; sinker; 100-bbl. iron tank and everything complete to drill immediately.

Total acreage, 969 in fee.

Address Lock Box 155, Reno, Venango County, Pennsylvania.

Drilling proposition in Colorado on 15,000 acres in one block in Delta County, Colorado. For further information, write, Triangle Oil Co., Independence, Kansas.

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

MAIL your advertisement now. It will be published next week. Cash with order.

LEASES—PRODUCTION

PRODUCING Royalties in Texas bought and sold. J. F. Marion Co., Magnolia Bldg., Dallas, Texas.

FOR SALE—15,200 acres Montana land. Lies in oil structure. Can furnish good geology. Drilling on all sides. Address C. E. Honkomp, First National Bank, Ashton, Iowa.

LOGAN COUNTY is getting good play by big companies. Get in ahead of production. For checkerboarded oil leases priced cheap, write Box 366, Guthrie, Okla.

PRODUCTION—Eastern Kentucky; 600 acres in Estill County Pool; fully equipped; working daily; 25 more drilling locations. All wells and equipment in best working condition. Selling to divide interests. C. B. Woodbury & Co., 36 Electric Bldg., Cincinnati, Ohio.

YOU WILL always be right in reading this Classified Section, as it is the best Petroleum Publication Classified Section in the world. It will help you.

METCALF COUNTY OIL LEASES
I own several very desirable leases near production, shallow drilling, 220 to 400 feet; production 5 to 20 barrels daily; high gravity oil, which I offer to the right parties on very easy terms. A. W. Richards, Edmonton, Ky.

MONTANA ACREAGE—30,000 acres, good geology; Producers' 88 Form leases; good terms; will give undivided interest or offset acreage for a test well; liberal proposition to party with capital to develop it. For particulars and maps, write G. H. Larrabee, Box 308, Oblong, Ill.

SHEFFIELD TERRACE LEASES
Leases in Crockett, Pecos, Irion, Coke, Sutton, Sterling, Tom Green, and others along the Marathon Fold, as low as 75 cents an acre. Also leases along Balcones Fault, in Guadalupe, Bexar, Wilson, Karnes, etc. Will sell 10 acres or more. All new 5-year commercial leases. Get particulars. No obligation.
GULF REALTY COMPANY
282 Bedell Bldg. San Antonio, Texas

BROKER AND OTHERS, NOTICE
Successful and reliable company will syndicate valuable oil holdings in the Tonkawa oil field in the vicinity of T. B. Slick's 5,000-bbl. well, and will secure investors with farm mortgages on some of Oklahoma's best farms. We need money to start development. That's why we offer security and also permit investors to share in lease profits of the lease made famous by Slick's discovery of Oklahoma's greatest oil well. This should be attractive to any banking firm, brokerage company or investor who desired that 1924 should show a handsome profit. Reliable, legitimate and worth the investigation of the most conservative. Highest bank references furnished. We can furnish anything else you need in oil or gas properties. Write us. No wildcat schemes considered.
JOHN S. GRAHAM & COMPANY
First National Bank Bldg.
Chickasha, Okla.

DRILLING propositions in Allen and Warren Counties, Ky., adjoining production. Box 489, Bowling Green, Ky.

FOR SALE—EQUIPMENT

FOR SALE—50 miles of 4-inch, and 75 miles of 5-inch Reading wrought iron line pipe; good condition. For prices and information, write or wire Post Office Box 282, Tulsa, Okla.

1,000 FEET ARMSTRONG gas traction drills; immediate delivery into New Mexico shallow fields. Kaufman Co., 129 West Second St., Los Angeles. Branch office: Farmington, N. M.

NEW MACHINERY
Eight 45-h. p. field boilers; nine 11½x12 Ajax type engines. Address J. S. Schofield's Son's Co., Macon Ga.

FOR SALE—No. 28 Star Drilling Machine; complete set of tools and boiler in first class condition. L. K. Spielman, Chanute, Kans.

FOR SALE—EQUIPMENT

BOILER TUBES—Regular standard new steel 3-inch by 8-foot boiler tubes at extremely low prices; less than it costs to manufacture. The U. S. Tool & Supply Co., Steubenville, Ohio.

FOR SALE
Twelve miles of 8-inch oil line pipe; first class condition; good threads and collars. Also 10 miles of 12-inch. For further information, write
OHIO IRON & SUPPLY CO.
909 St. Johns Ave. & Erie R. R.
Lima, Ohio.

FOR SALE at a bargain price, 3,000 feet of 6⅝-inch well casing, 27 pounds to the foot; also 250 feet 8⅝-inch; 60 feet 12⅝-inch. This casing is new and unused, with couplings and thread protectors. S. C. Weber Iron & Steel Co., Chattanooga, Tenn.

FOR SALE
UNUSED BOILER FEED PUMPS
CHEAP
Seven Scranton Duplex Piston Pumps brass fitted, for 100- to 200-h. p. boilers, diameter steam cylinder, 4½ inches; water cylinder, 2¾ inches; stroke 4 inches; capacity 20 to 40 G. P. M.; $65 each; regular, $100. Never out of crates.
CHARTER GAS ENGINE CO.
Sterling, Illinois

FROM NOW ON, when I want to do business with the real men of the petroleum industry, I'm going to put my advertisement right here in this Classified Wants Section.

OIL COUNTRY AND COMMERCIAL ENGINES
One 180-h. p. oil engine; practically complete; line of Type Y Fairbanks-Morse oil engines; all sizes gas and oil engines; new; used or rebuilt; horizontal or vertical. Address National-Acme Engine Co., Independence, Kans.

GRAY IRON CASTINGS
Inquiries for Prices
Appreciated and Promptly
Answered
LAURELTON FOUNDRY CO.
Laurelton, Pa.

IF I had by Wants listed in this section they would receive the same attention that thousands are giving the good advertisements already here.

IT'S

REALLY A TANK

WITHIN A TANK

THE NEW M & V GUNBARREL

One part separates oil and water automatically.
The gas has its own compartment in top of tank.
You can see wells produce without losing the gas.
It's really automatic. No valves or cocks to open or close.
Welded construction. No leaks or seeps.
Made of heavy rust-resisting copper steel sheets.
It's positively efficient, durable and fool proof.

M & V TANK CO.
Wichita Falls,
Texas

FOR SALE—Two 45-h. p. Charter gas engines; in good condition. Address Box J. P., care The Oil and Gas Journal, Tulsa, Okla.

FOR SALE—20,000 to 25,000 feet of Byers 2-inch wrought iron pipe, only used a short time; in good condition. I have also recently patented an automatic hog feeder which I will sell or trade for Oklahoma land. John E. Robbins, Greensburg, Ind.

FOR SALE—EQUIPMENT

FOR SALE—Three 150-h. p., 3-cylinder vertical gas engines and one 100-h. p., 3-cylinder direct connected to 50 K. V. A., 220 & 110-volt Westinghouse D. C. generator; a supply of spare parts and patterns for all engines and parts. Engines are in operation but will be replaced in two months by motors. Offer in whole at attractive prices f.o.b. cars. Address Box A-220, care The Oil and Gas Journal, Tulsa, Okla.

BUY your cedar posts direct from the farmer. H. Siebenmorgen, Route 1, Scranton, Ark.

TANK BOLTS

SAME-DAY SHIPMENT

⅛x¾-inch, ⅜x¾-inch, ⅜x1-inch.
⅜x1¼-inch, ½x1-inch.
Write or Wire for Quotations

STEEL MFG. & WAREHOUSE CO.

1447 Genesee St. Kansas City, Mo.

FARM LANDS FOR SALE

FOR SALE—430-acre farm near railroad town in oil and gas territory, with 2,860 acres leases: one lease in Oklahoma, adjoining production. All for value of farm alone. Post Office Box 14, Vinland, Kans.

INCORPORATIONS

DELAWARE incorporator. Charters; fees small; forms. Charles G. Guyer, 901 Orange St., Wilmington, Del.

FINANCIAL

INTERNATIONAL financing; securities sold; no advance fees. Box 471, Oklahoma City, Okla.

CAPITAL supplied, manufacturing oil and other legitimate business, through sale of securities on reasonable commission. House established 30 years. Wiers & Co., 115 Broadway, New York City.

CAPITAL—Eastern and Canadian can be quickly reached through brokers, bank managers and salesmen; valuable information upon request. Amster Leonard, First National Bank Bldg., Chicago, Ill.

CAPITAL RAISING—Campaigns planned, written, printed—everything complete, ready to mail to investors. Twenty years' experience handling investment advertising. Clients all over America. Big, illustrated book, "How to Raise Capital," free if you submit detailed outline of your proposition. Ernest F. Gardner, L-511 Ridge Arcade, Kansas City, Mo.

WANTED

WANTED PRODUCING and semi-proven small royalty interests in Creek County; give location, interest and price. Address Box J. B., care The Oil and Gas Journal, Tulsa, Okla.

COMPRESSORS AND ENGINES Wanted.—Slightly used 40- to 60-h. p., two-stage, direct driven compressors, also belt driven single and two-stage compressors and gas engines, from 35- to 80-h. p. State size, price, and location, to Box J. P., care The Oil and Gas Journal, Tulsa, Okla.

PRODUCTION WANTED—Closely drilled, shallow, high gravity pool. Prefer production nearly on point to be abandoned. Address plat, production, price and details to Box A-232 care The Oil and Gas Journal, Tulsa, Okla.

WANTED oil field specialties to sell. What have you? Address 5 Grace Court, El Dorado, Ark.

OIL PRODUCTION WANTED
Oil sales, valuations, management and operation of properties in all leading fields.
KARL F. DIVENER
950 W. North Ave., Pittsburgh, Pa.

WANTED

WANTED—Broker desires good royalties to sell clients; no company royalties. Have price right. Gregg Snyder, 292 West 92nd Street, New York City.

OIL STOCKHOLDERS LISTS WANTED
Will buy new bonafide lists if prices right. What have you? Address Box 15, Davenport, Iowa.

HELP WANTED

WANTED—A. No. 1 oil tool machinist; one who is familiar with all kinds of fishing tools as well as joint work. Address Midland Iron Works, Billings, Montana.

WANTED—An experienced oil tool blacksmith helper. One who can either drive hammer or heat. Address Midland Iron Works, Billings, Montana.

WANTED—Responsible salesmen, to sell Oil and Gas leases in the Texas Panhandle; 10-year commercial leases; in 10 acre tracts and up; exclusive and liberal contracts to parties who can deliver the goods. Address Box 368 Amarillo, Texas.

POSITION WANTED

THOROUGHLY EXPERIENCED—young man desires position in selling organization or material department of supply or operating oil company. Ten years' experience in Pennsylvania, Ohio, West Virginia, Kentucky, Kansas, Oklahoma, Arkansas and Louisiana Fields. Now employed. For personal reasons, would like to locate in New Mexico, Colorado or Wyoming. Address Box A-231 care The Oil and Gas Journal, Tulsa, Okla.

SUPERINTENDENT of tools and production and expert fisherman, desires connection with reliable oil company; years of practical experience. Can go anywhere. Address, Box 110, care The Oil and Gas Journal, Tulsa, Okla.

PETROLEUM OPERATOR and engineer, with over 25 years' practical experience in most of the productive fields, and a recognized petroleum authority in America and Europe, offers services as consulting engineer or active executive position with an independent company or firm. Has an unusually extensive and valuable acquaintance and successfully financed many large enterprises. Highest class technical and commercial credentials. Negotiations will be strictly confidential. Petroleum Operator, care The Oil and Gas Journal, Tulsa, Okla.

PETROLEUM and industrial chemist with many years' experience, desires position. Address Box A-123, care The Oil and Gas Journal, Tulsa, Okla.

EXPERIENCED land man who has leased and cured titles in Kansas, Oklahoma, Texas and Louisiana, desires a position. Address N. F. I., P. O. Box 1204, Shreveport, La.

BUSINESS OPPORTUNITY

FOR SALE—Controlling interest in up to date machine and supply business, located in producing territory. Priced right for quick sale. Write Box 796, Beggs, Okla.

ATTENTION OIL MEN—I make locations and pass on acreage, observational conditions and blosson; can give references; let me prove it; convincing is proving. Address R. A. C., Box 121, Holdenville, Okla., or D. E. R., Box 3, R. F. D. No. 1, Crescent, Okla.

OPERATING LEASE—Will give 600 acres for test well close to Gum Island; geology by geologist who located Gum Island; operators with capital only need apply. James P. Williams, Orange, Texas.

Core drill your structure with diamond drills and reduce the hazard of wildcatting. Let us help your geologists correlate structure before you put cable tools at work. The cost is relatively small and the possible savings enormous. Drilling Corporation of America, 205 Cosden Bldg., Tulsa, Okla.

Additional Classified Wants on Following Page

CANNOT GET OUT EVEN AT PRESENT PRICES

(Continued from Page 115)

rights in order to provide material for the use of those least entitled to have it and whose only purpose in seeking to obtain it would generally be to attack or to injure the person or the corporation making the return, or at best, to gratify idle curiosity. It would be difficult to conceive of any measure which would more seriously disrupt, embarrass and impede the normal business progress than the giving of such a measure the force of law.

Blow at Industry

The Senate bill also carries a provision for a graduated tax upon the undisturbed surplus of corporations. This would aim a very direct blow at the oil and gas business. By reason of the uncertain character of the supply, by reason of the very speculative character of the business itself, no industry should have greater regard to laying aside an adequate reserve out of current earnings than the industry in which we are engaged.

But for a prudent husbanding of earnings instead of recklessly paying out all current income in the form of dividends, a very large number of oil companies would have been irretrievably ruined in the trying period encountered during the last two years. Such a provision as proposed by the Senate would discourage business efficiency and prudence; it would encourage extravagance and wastefulness, and would hit at the very roots of permanent prosperity, not alone of the oil business, but of every soundly conducted industrial enterprise. It cannot be that Congress, in its moments of sober reflection, will seriously endorse any such plan.

Yet, faced as we are with problems and difficulties, connected with a suspicion of the good faith of the whole industry, growing out of public criticism aroused by recent congressional inquiries, the petroleum business is placed under obligations both to itself and to the country which may well call for all the qualities we possess of energy, wisdom and patriotism. I have great confidence in the future; I believe in the men who are conducting this business. I know most of the important ones fairly well. I think I understand their motives and I believe them to be as a class, men of unquestioned integrity, of great ability and men who look beyond the mere interests of the moment and have a real regard for the prosperity of their own industry, as well as the country of which they are citizens.

Discouragement cannot hold you long if you grasp these fundamental truths. That the human race is essentially and normally honest; that work is the natural remedy for most evils; that people must be fed and clothed and supplied with an ever-increasing number of bodily comforts; that labor troubles, political differences and even national conflicts are but evidences of the progress of adjustment which is always going on; that business is much better today than most of us are willing to admit; that it will be better over the next 10 years than in the decade just passed, and that if you and I pursue our chosen vocations with a proper regard for the rights of others, we need not worry about the other fellow's regard for the rights that are ours.

Faith in Oil Industry

I have great faith in the oil industry. It is an industry sound at the core, dealing with a basic product absolutely necessary for the progress and prosperity of the world; produced and marketed today with extraordinary efficiency and economy. I believe in the American people, in their sence of fairness and justice, and that as they understand better the men engaged in the petroleum business they will accord to that industry that ever increasing measure of confidence which I firmly believe it deserves.

I have revived some memories of the war period because I feel that there is a need for much of the same kind of concerted effort today. The Nation is divided by appeals to prejudice, to class consciousness and sectional differences are being emphasized by the clamor of partisan propagandists.

There is not today a united America as there was in the war. Healthy differences of opinion we always will have, and some discontent, but today far too great a proportion of the thoughts of the people of this country is centered on bickerings and charges and countercharges, which can serve no good purpose and which are producing a very visible effect upon our national day's work.

Whatever dislocation exists in American commerce today is largely phychological and because our minds are diverted from the real achievements of life by the trivial squabbles of the moment.

You, gentlemen, are engaged in a public service as important as any upon which the people of this country depend. You are in daily contact with the great public and with those who direct public opinion and those who embody it in legislation. I appeal to you now, as I did in the war, to close ranks and present a firm front against this insidious foe of doubt and suspicion, which is so foreign to the character of the American people, but still so prevalent in our midst today.

Editors Given Close View of Oil Region In Full Operation

The National Editorial Association, composed of editors of dailies in the smaller cities, and country weeklies, and altogether reaching a reading public mounting into hundreds of thousands, visited the Oklahoma oil fields this week on their way to Old Mexico.

They saw oil produced, transported and refined in the big fields near Ponca City, where the first stop was made and while there heard a notable address on the oil business delivered by Ernest W. Marland, president of the Marland Oil Co.. Ponca City merchants and oil men entertained the editors royally, after which they came to Tulsa, where they saw the big Cosden refinery in operation and visited the Sand Springs Orphans Home, maintained by an oil man, Charles Page, and said to be the largest private philanthropy in the world, and in the evening, saw the motion picture, "The World's Struggle for Oil," and listened to another good speech on the oil business by Secretary Harry H. Smith, of the Mid-Continent Oil and Gas Association.

The Tulsa committee supplied each of the 200 visiting editors with copies of the introductory summary of "The Oil Industry's Answer" from The Oil and Gas Journal of March 20, believing that it was the most effective way to give them a proper understanding of the great enterprise which has built the Magic City and keeps the wheels and machinery of progress of the world moving.

10,000-BBL. WELL IN LULING, TEXAS FIELD

HOUSTON, Tex., May 19.—In the Luling District the United North & South Oil Co.'s No. 7 Baker on the east side of the Guadalupe County extension is flowing at an estimated rate of 10,000 bbls. a day. The Grayburg Oil Co.'s No. 3 Allen in the same part of the field is flowing 1,000 bbls. and gassing.

The Texas Co.'s No. 5 Allen is flowing 300 bbls. by heads at 2,095 feet, 27 gravity oil. The United North & South Oil Co.'s No. 1 Holmes is drilling, located 3 miles south of production. The Dixie Oil Co. is starting a second test near New Berlin in Guadalupe County and one in the eastern part of Bexar County, south of Atkins, on what is considered another structure. The Amy Oil Co.'s No. 1, south of Devine, Medina County, is drilling below 1,000 feet.

CLASSIFIED WANTS

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

MAIL your advertisement now. It will be published next week. Cash with order.

BUSINESS OPPORTUNITY

PANHANDLE, Carson County, Texas, the coming oil city. Trackage, business and residence lots for sale by owner. Fred Horsbrugh, Amarillo, Texas.

MY SCIENTIFIC METHOD eliminates guesswork. Producing areas carefully mapped before drilling. Production estimated. For particulars, write C. L. W., 5534 Hays St., Pittsburgh, Pa.

WANTED—Proposal for manufacture and sale of new pumping jack. Patent applied for. Pumps deep wells with half the power required by any other jack now in use. Can convince you. A thoroughly practical device. Address Inventor, Box 286, Breckenridge, Texas.

PUBLIC AUCTION

On May 29, at 2:00 p. m., at the Court House of Greenwood County, Kansas, situated at Eureka, Kans.

The property of Marshall Oil & Gas Corp., consisting of 160 acres located in the Virgil Field, Greenwood County, Kansas, to-wit:

The northwest quarter of Section 12, Township 24, Range 12.

Daily production, 30 barrels of 41 gravity oil. Seven producing wells, the youngest two years old. Depth of wells 1,750 feet, finished with 6⅝-inch casing. Proven locations to be drilled. Lease has $37,000 worth of equipment, including brand new Mascot Power, Fairbanks 25-h. p. oil engine and power house. Also lease house and warehouse, and sufficient casing on ground to continue drilling operations.

For additional information, wire or write

CHAS. J. NIESEN,
Utica, Ill.

WHITE SPACE at the top and bottom of an advertisement makes it conspicuous. Ask for it in your next advertisement. Figure the cost at regular rates per line.

YOUR OLD FRIENDS

C. F. EIKLEBERRY, RIG BUILDER WANTED

If C. F. Eikleberry, rig builder, will communicate with Box 1782, Salt Lake City, Utah, he will connect with people who are will to consider hiring him to build a standard rig and camp. Anyone who knows of Eikleberry's whereabouts will confer a favor by notifying the above address.

FOR SALE—MAPS

FREE ARKANSAS MAPS showing oil development. We have a limited number of Arkansas State maps in colors showing the trend of the oil development. If you want one of these free, send 10 cents for postage. Bray-Hawthorne Co. Inc. Arnold & Doyle Building, Camden Ark.

DIRECTOR OF FOREIGN EXHIBITS

Dr. John Emil Ott, of Tulsa, geologist for the Livingston Petroleum Corp., has been appointed director of foreign exhibits for the International Petroleum Exposition to be held in Tulsa October 2-11.

Doctor Ott is well posted on foreign oil affairs. He reads, writes and speaks English, German, French and Italian and has a good commercial knowledge of other European tongues. He has opened a campaign of publicity intended to interest foreign manufacturers of oil field and refinery equipment and scientific instruments used in the petroleum industry, and hopes to see several of the large European manufacturers represented at the exposition.

FREEL PETROLEUM ENGINEERING CO.
CONTRACTING ENGINEERING GEOLOGY
1654 BROADWAY, DENVER, COLO.
Phone 7080 Champa
DAN FREEL S. H. CASTELL

FOR SALE—PETS

REGISTERED Bull Pups—Bulldog Park, 501 Rockwood, Dallas, Texas.

MAILING LISTS

490 NAMES of leases buyers in Oklahoma; guaranteed; 5 cents per name. Oil Industry Register, P. O. Box 1742, Tulsa, Okla.

STOCKHOLDERS LISTS

We have them in hundreds of oil, mining, industrial, financial and insurance companies. Write for complete list with prices. E. F. Rogers, 301-2 S. Putnam Bldg., Danvenport, Iowa.

968 NAMES of production superintendents in Mid-Continent; guaranteed; 5 cents per name. Oil Industry Register, P. O. Box 1742, Tulsa, Okla.

STOCKHOLDERS

I have the stockholders' names in over 1,000 companies. Ask for price list showing names of company and number and price of names.

A. F. WILLIAMS
Established 1880 166 W. Adams St.
Chicago, Ill.

213 NAMES of purchasing agents of oil companies in Mid-Continent; guaranteed; 5 cents per name. Oil Industry Register. P. O. Box 1742, Tulsa, Okla.

STANDARD FORMS

OIL FIELD LEGAL BLANKS—Leases, assignments, releases, township plats, gauge books, run tickets, time books, well records, etc. Request on your letterhead gets free catalogue. Old Press, 215 East Third St., Tulsa, Okla.

CONSUMERS' LEDGERS

We are prepared to furnish from stock standard forms of Gas Meter Consumers Ledgers. Sample forms and quotations on request. First class material and workmanship.

DERRICK PUBLISHING CO.
Oil City, Penn.

TOO LATE TO CLASSIFY

ONLY $100 for 1-32 interest in more than 300 acres of leases in shallow sand territory near here; on excellent geological structure, with well already started. Wonderful prospect for big wells, possibly as large as the Coweta 1,000-bbl. gusher. Only few interests to be sold. Best references. Richfield Oil Co., McKibban Bldg., Muskogee, Okla.

A LAND COMPANY, not familiar with the oil business and owning a tract of 30,000 acres of cut-over lands in Arkansas, about 50 miles in north northeasterly direction from Smackover Fields, a portion of which is now being exploited by one of the largest oil companies, desires to dispose of a part of its remaining holdings, either to a syndicate prepared to organize an operating company or to conduct a selling campaign. Correspondence with responsible parties is solicited. Address Box A-234, care The Oil and Gas Journal, Tulsa, Okla.

HAVE TWO BLOCKS of acreage selected by Hugh H. Tucker, locating geologist of Reagan County, Texas, oil field. Am taking advantage of these columns to secure necessary capital for development. Box 502, San Angelo, Texas.

20 ACRES—Fine citrus fruit orchard, $5,800; house nearly new; six rooms and bath; large porch; other out buildings; close in; price $12,000; terms. Collins & Zenor, San Benito, Texas.

WANTED—Wildcat well completed in 36-7n-4w, McLane County, Oklahoma. Hole now 2,470 feet, in good condition. Can furnish 10,000 acres leases adjoining. Weber Drilling Co., Dewey, Okla.

WANTED—Position with refinery; have number of years' experience as superintendent and manager. Can go anywhere. Address Box A-233, care The Oil and Gas Journal, Tulsa, Okla.

VETERINARY SURGEON of 18 years' practice. Sober. Wishes to go to South America or Mexico; take charge of stock for large oil company. W. N. Maters, Box 432, Smackover, Ark.

NEW NAVY GASOLINE FIRM IN GROUP 3

(Continued from Page 22)

A fair demand for all grades is expected to continue over the summer.

The absorption grades of natural gasolines are fast approaching the level of the casinghead grades. Considerable quantities of both Grades A and B were offered to buyers at prices indicating a very weak market. The higher gravity casinghead grades are more in demand. Stocks of all grades are heavy. There was comparatively little buying by refiners in the Mid-Continent.

Wax and Neutrals

Refiners who sold their wax output over June and July at the prices in line with the spot market a month ago are congratulating themselves. Prices slumped again with buyers offering as low as 4⅜ cents. The movement of neutrals is unchanged. Cylinder stocks have been lowered from ¼ to ½ cent.

KANSAS FIELDS

(Continued from Page 118)

Section 1-23-10. The Empire Gas & Fuel Co.'s No. 10 Piatt, C SE NE SW, Section 13-23-10, was good for 405 bbls. of 40.6 gravity crude following a shot of 240 quarts in sand at 1,997-2,086 feet, first oil having been encountered at 2,034 feet.

The Mission Oil Co. shot its No. 35 Thrall, C SE SE, Section 29-23-10, with 190 quarts in sand at 2,265-2,350 feet and it made 100 bbls of 40.4 gravity oil afterward. The Mid-Kansas Oil & Gas Co. was spudding its No. 7 Martindell, SW cor. SE, Section 31-23-10, and had a rig on the ground for its No. 8 Martindell, SE cor. SW, same section.

A 400-bbl. producer was completed by the Mission Oil Co. in its No. 2 Thrall, NE cor. NW SW, Section 32-23-10 with a 100-quart shot in sand at 2,240-2,300 feet. The same company was drilling in its No. 4 Thrall, CWL NW SW, same section, and No. 37 Thrall, CSL NW NE, same section was good for 120 bbls. after a 100-quart shot in sand at 2,269-2,315 feet.

The Great Southern Oil Co.'s No. 1 Thrall, NW cor. NE SW, Section 32-23-10, was shot with 80 quarts in sand at 2,256-2,316 feet and made a 200-bbl. well. The same company's No. 2 Thrall, CNL NE SW, same section, was estimated good for 300 bbls., while cleaning out following a shot of 100 quarts in sand at 2,269-2,333 feet.

In northern Greenwood County, Richie & Moore abandoned their No. 1, C SW SE NE, Section 30-23-9, as dry at 2,625 feet.

Agard Pool Operations

In the Agard Pool, Roth & Faurott and others had a rig up and tools in place for their No. 1 Cartwright, SE cor. NE, Section 1-24-9. The Arkansas Fuel Co. was drilling at 1,000 feet in its No. 2 Marshall CSL SW SW, same section, and the Lewis Oil Co. and National Refining Co. were spudding their No. 1 Heidelson, CWL NW SE, same section. They were also rigging up No. 2 Heidelson, NE cor. SE, same section. The Derby Oil Co. was drilling its No. 1 Lewis, NE cor. Section 11-24-9, at 450 feet, and was spudding its No. 2 Lewis, CEL NE NE, and No. 3 Lewis, SE cor. NE NE, same section. Polhamus and others completed their No. 3 Lewis, SW cor. SE NE, Section 11-24-9, for 90 bbls. of 41.1 gravity crude, after a shot of 60 quarts in sand at 2,265-92 feet. The same interests' No. 4 Lewis, NE cor. SE NE, same section, made 300 bbls. after a 140-quart shot in sand at 2,245-2,314 feet. They were spudding No. 6 Lewis, CNL SE NE, same section.

The Transcontinental Oil Co.'s No. 7 Olson, SW cor. SE SE, Section 11-24-9, was a 175-bbl. well from sand at 2,145-2,230 feet after a shot of 120 quarts. The same company's No. 9 Olson, NW cor. NE SE, same section, made 175 bbls. from sand at 2,244-2,289 feet after a 120-quart shot.

Henderson and others had a rig in place for their No. 2 Hellman, SW cor. SE SW, Section 14-24-9. Rogers and the Mission Oil Co. were building a rig for their No. 3 Wiggins, NW cor. NE NW, Section 23-24-9, and had a rig up for No. 2 Wiggins, CNL NW NW NW, same section.

Rogers and others were spudding their No. 2 Cartwright, CNL NE NW, Section 6-24-10, had a rig up for No. 3 Cartwright, CEL NE NW, and were building a rig for No. 4 Cartwright, SW cor. NW, same section.

Polhamus and others completed a 200-bbl. producer in their No. 10 E. Marshall, CNL NE SW, Section 34-24-9, with an 80-quart shot in sand at 2,167-2,263 feet. First oil was found at 2,220 feet.

The St. Louis Oil & Refining Co.'s No. 6 Kruebler, CSL SW NE NE, Section 15-23-13, was good for 20 bbls. from sand at 1,781-1,801 feet after a 50-quart shot.

The Empire Gas & Fuel Co.'s No. 1 Burris, C SW SW SE, Section 11-22-11, was a 200-bbl. producer after a shot of 80 quarts in sand at 1,831-1,910 feet, with first oil at 1,859 feet. The Phillips Petroleum Co. was drilling its No. 1 Kern, SE cor. Section 21-22-11, at 800 feet.

A 70-bbl. well was completed by the Huston & Oklahoma Oil Co. in its No. 2 Sullivan, NW cor. SW, Section 14-24-12. It was shot with 100 quarts in sand at 1,712-39 feet, after topping the lime at 1,700 feet. The Mission Oil Co.'s No. 3 Thrall, NW cor. SW, Section 32-23-10, topped the sand at 2,233 feet found at 2,255-2,319 feet and was estimated good for 600 bbls. after a shot of 160 quarts. The Phillips Petroleum Co.'s No. 13 Lewis, CSL SE NW, Section 32-23-10, was estimated good for 400 bbls. after a shot of 80 quarts and was to be given another shot. Top of sand was found at 2,260 feet, and oil at 2,263-2,313 feet.

FRONTIER REFINERY SALE

WICHITA, Kans., May 19.—The Frontier Refining Co.'s 2,500-bbl. refinery at Hutchinson, Kans., was bought today by Ray Foley, receiver for the American State Bank for $24,000. The company was forced into bankruptcy several months ago. The bank held $180,000 of the $253,000 total indebtedness. Appraisal value was $69,000.

WILCOX SAND CHARM IN ITS ELUSIVENESS

(Continued from Page 35)

On October 8, 1913, the Osage & Oklahoma Co. deepened its No. 173, in Section 8-20-12, to sand at 2,036-44 feet where it was good for 2,000,000 feet of gas. It had been producing gas from sand at 1,377-86 feet since 1910.

The next year, 1914, however, saw the first real well in the second break. It was the Osage & Oklahoma Co.'s No. 200 Mabel Kennedy in the northeast quarter of the southwest quarter of Section 8-20-12. This well was drilled for the Osage & Oklahoma Co. by the Braden Drilling Co. to a total depth of 2,175 feet and produced 13 bbls. of oil an hour and made 1,000,000 feet of gas from sand at 2,125-75 feet. Charles E. Blair was the driller, and the contract price was $1 a foot. The well was completed April 16, 1914.

Extensive interest in lime production north of the Arkansas River was probably started by the Phoenix Refining Co.'s discovery in Section 5-19-11, Tulsa County. That company's No. 1 Mitchell was completed in April of 1917.

The new deep sand producer in the Tonkawa Field is perhaps the most interesting of all Wilcox wells. There are some who still maintain that it is flowing from the Bartlesville sand, but geologists and production officials who have studied the situation carefully are convinced that the oil is coming from the Wilcox series. It is not only one of the most recent finds, and one of the most

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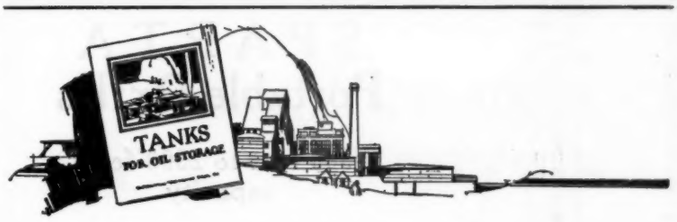

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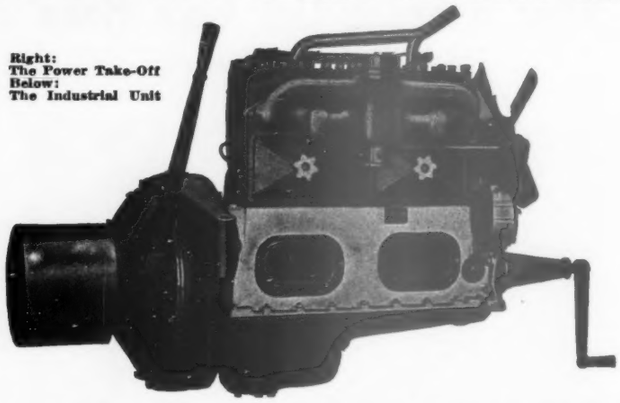
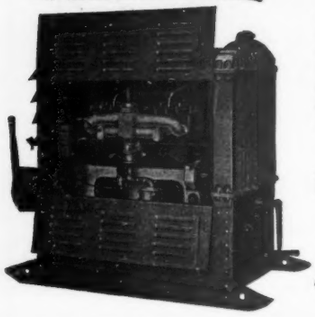
Right:
The Power Take-Off
Below:
The Industrial Unit



Waukesha
TRADE MARK



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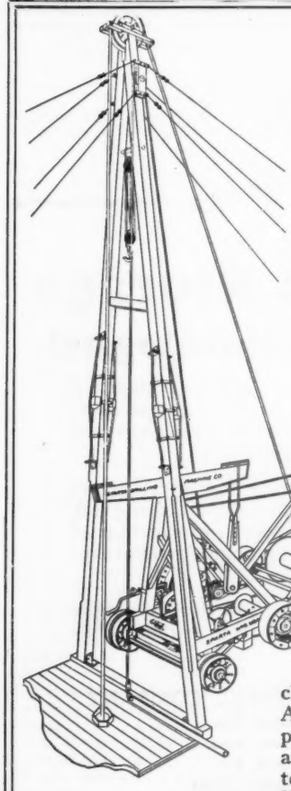

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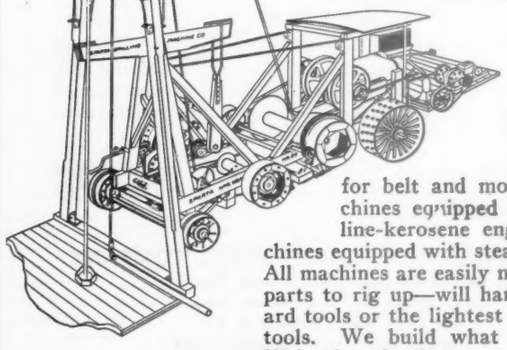

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prolific, but is also the farthest west, and occupies more of the limelight at the present time than any other with the possible exception of Stroud, which has developed into a pool of the first magnitude.

Area Sharply Outlined

One of the best known characteristics of the Wilcox sand is the sharpness with which the producing area is outlined, and it is undoubtedly safe to say that no other productive sand in Oklahoma has caused such a large percentage of dry holes. Because of the great depth of the holes and the consequent high cost of drilling, the Wilcox sand has cost producers more money for failures proportionately than any other sand. Many small "pimples" are entirely encircled by failures, although in some cases the enormous production of the one well pays for all of the others. The Atlantic Oil Producing Co.'s No. 7 in the center of the east line of the southwest quarter of Section 1-22-9, Hominy district of Osage County, for instance, was completed in August of 1922 for 10,000 bbls. with the bit four feet in the sand topped at 2,320 feet. One other small well was finished nearby and that was the end of the chapter. Up in Kay County, the Marland Refining Co.'s No. 1 George Brett, in the southeast quarter of Section 8-25-2e, has made about 720,000 bbls. since June 20, 1919. Six other small wells have been completed around No. 1, and the rest were failures.

The Wilcox in Kansas

Only the southern counties in Kansas are shown on the map because of the fact that conditions in Butler and Greenwood Counties and other northern areas are entirely different with respect to the formations below the Mississippi lime than they are in Oklahoma. The Tyner Green shale line probably swings back across Cowley County, and may even cut across part of Chautauqua County, although present information is too meager to enable the line to be drawn definitely. The new Wilcox Pool opened within the past two weeks in northern Chautauqua County may even be north of the general line. There are two Wilcox Pools in Greenwood County, located in Townships 24-10 and 22-13, and numerous wells in the old Augusta and El Dorado and Elbing Fields, in Butler County produced from formations normally below the Mississippi lime, although the lime is eroded from the top of the structure in those localities. This condition is similar to that found in the Cushing Field in Oklahoma.

The Lamb Pool near Coffeyville in Montgomery County, and which extends across the line into Nowata County, Oklahoma, is generally regarded among geologists as a "freak." Last week, it embraced 15 wells producing a daily average of 1,200 bbls. of 25 gravity crude, found at approximately 1,200 feet. Although the gravity is low, the lubricating content is high and it is being sold on the basis of 32.9 gravity, to the Standard Oil Co. of Indiana, which uses it for some special purpose.

Points in Map Explained

The lines on the accompanying map showing the geological formations are generalized and no attempt was made to draw them in detail to show the local variations. They are sufficiently close for all practical purposes, however. Likewise, no attempt was made to draw in detail the exact outlines of the pools because the black dots were exaggerated so they would show up on the map more distinctly. The relative size of the pool is indicated by the size of the dot and the approximate acreage covered by the producing area is given by the figure in the large circle around the pool. In the cases where only one or two wells are producing from the lime, no figure is given. The "plus or minus" sign after a figure indicates that the pool is not yet fully developed. Figures in the boxes show the approximate depth to the top of the Mississippi lime in the nearby region.

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SINCLAIR GRANT BASE OF REVOLT IN PERSIA?

Russian news agencies' reports from Teheran declare the movement against the present dynasty in Persia is serving as the cloak for a scheme to upset the Sinclair oil concession in Northern Persia, control of which is desired by the Royal Dutch and a French company, said to be sponsored by the Standard Oil. The dispatches say the question of taking the oath to the present Persian parliament is being urged in order to intensify the anti-dynastic sentiment with a view to blocking parliamentary ratification of the Sinclair concessions. The premier, however, energetically is demanding approval of the American concessions and striving to bring an agreement among all factions.

A London report says the presence of Japanese trade and other missions in Central Asia and Middle East may indicate Japan is seeking oil supplies in Persia, with which she aims to cultivate good relations, and difficulties over the oil concession in northern Persia, given to Sinclair, may redound to the benefit of Japan.

UTE OIL LEASE SALE INCLUDES 23,000 ACRES

OKLAHOMA CITY, Okla., May 17.—About 23,000 acres of land on the Ute Mountain Indian Reservation in New Mexico and Colorado are to be offered for oil and gas lease on June 10 by the Department of the Interior through the Ute Indian Agency at Durango, Col. The tracts lie northwest of Farmington, the nearest boundary being 10 miles from that town, and all are in New Mexico but one. The terms are similar to those under which Navajo Indian Reservation leases were made last October.

One tract of 3,360 acres is in 31 north 13 west, another of 4,720 acres is in 31 and 32 north and 13 west, another of 4,800 acres in 30 north 15 west, another of 4,500 acres in 30 north 16 west, another of 960 acres in 30 north 15 west, and the fifth 4,800 acres, in Colorado, near the common border of Arizona, Utah, Colorado and New Mexico.

TWO WILDCAT TESTS INTEREST LOUISIANA

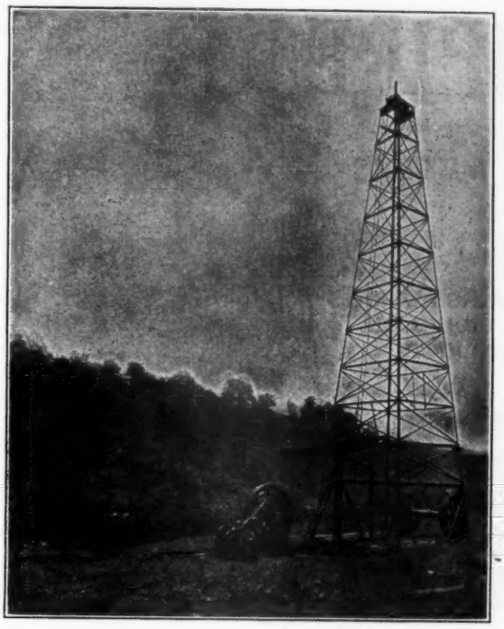
SHREVEPORT, La., May 17.—A wildcat test, drilled by Fuller & Scott on the Furr lease 200 yards west of the Louisiana State line, in Harrison County, Texas, blew in at 1,926 feet making from 4,000,000 to 5,000,000 feet of gas and considerable salt water. An effort will be made to cut off the salt water and drill deeper for oil.

Smitherman & McDonald's wildcat test in the north end of Bossier Parish, drilled on the Boucher lease in Section 21-23-11, blew in a second time Sunday making 30,000,000 feet of gas with 250 bbls. of fluid and an encouraging oil showing. The well is in practically new territory, lying 12 miles northwest of the Cotton Valley Pool and 2 miles northwest of the Lloyd Harris well, the first oil well in Webster Parish.

RECORD DIESEL TANKER

Krupps, builders of the Zeppot, the largest tanker in the world, which is a 15,750 ton deadweight, Diesel-driven Isherwood system ship, claim that the vessel has covered the greatest mileage run up to now by any motor ship in continuous service during a similar period, and that her twin 1,600 shaft horsepower, six-cylinder, two-cycle Diesel engines have been kept in operation for a longer period than any other high-powered marine oil engine. She started on her maiden trip from Kiel to New York on July 31, 1920. Up to October 1, 1923, or a little over three years' service, she covered a total mileage of 185,114 nautical miles. Her average speed was 10.5 knots. The figures probably make favorable comparison with the most successful of steam tankers. The Zoppot is now owned by Standard Oil.

O'Brien Structural Steel Derricks



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WRONG IDEAS ABOUT GAS SHOULD BE CORRECTED

(Continued from Page 68)

justed for low pressures, it is easy to demonstrate that the heating value of each foot of gas is practically the same and that satisfactory service during low pressure times is absolutely in the hands of each individual gas user.

In this conection it may be of interest to recall that a Smithsonian Institution booklet informed us that each five degrees decrease in the temperature causes an increase of about 1 per cent in the heating value, and a drop in pressure of about 2½ ounces causes a corresponding decrease in the heating value of natural gas.

Reserve Acreage Figures

Some of our customers are misled by reserve acreage figures. Some seem to believe that the territory is bought up solely to keep out competition, that immense amounts of money are paid annually for this purpose, and that the rates are appreciably higher because of such reserve acreage. Because of the methods of classifying, the figures do not necessarily indicate acreage which has not been developed, but merely the area of leases which have not been drilled on. They do not necessarily indicate that gas can be produced from any part of such territory. We owe it to our customers to explain the exact conditions to them, to tell them why unused lands are being held for future development, to show why it is necessary to lease lands which may or may not later produce gas, and to prove that the holding of reserve acreage is an advantage and a benefit for them.

The service charge has been the subject of considerable misunderstanding and unfavorable comment from gas customers. Comparing any public utility company with the ordinary mercantile business leads to many incorrect conclusions. The latter, of course, has no service charge and covers all of its costs by means of the commodity charges. Here are a few thoughts which will indicate a few differences:

The natural gas company has an annual gross revenue somewhere in the neighborhood of one-fourth of its total investment, while the merchant may have an annual turnover of three or four. The interest charges, which are independent of the amount of gas sold, are therefore considerable.

A public service company has a very large investment, occasioned by the necessity for standing ready at all times to deliver its services immediately without previous orders or warnings.

A large part of the public utility company's operating expenses go on regardless of the amount of gas used or of whether gas is used or not. You can all enumerate many individual items which go in to make up the total.

The revenue which is needed to keep a gas company in business could probably be obtained entirely from a commodity charge without any readiness-to-serve charge, but a service charge, based on actual customer service expenses, which do not vary as among customers, and which are the same at all times, and which are calculated separately from the costs of the gas, does away with the inequality of the rate without a service charge. It is a fair, just, businesslike arrangement. It concerns the relations between consumers themselves.

Service Charge Explained

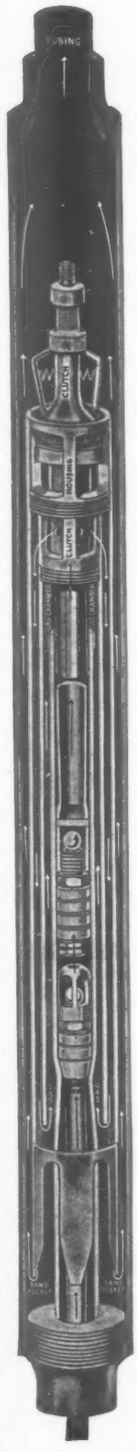
Commissions generally have agreed that the service charge form of rate is the most equitable. The following from a recent opinion of the Missouri Public Service Commission is of interest in this connection:

"There are certain costs common to all users, and which are incurred whether the consumer uses gas in large quantities or no gas at all.

"Interest and depreciation on the investment in the meter, the inspection of the meters, and the removal and repairs of meters, are all items of expense that are

Bell Barrel

Removes Sand Not a Separator



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wholly independent of the amount of gas consumed. Interest, depreciation and maintenance of services owned by the company are all items of expense that are incurred even though no gas is consumed.

"Meters must be read, charges entered on the books, bills rendered to consumers, accounts collected, stationery and supplies used and all of the foregoing work supervised, although not a foot of gas is consumed.

"It is these costs that the service charge distributes equitably among consumers, so that each customer will pay the actual expense he causes the company and all customers will pay the same prices for gas consumed."

The very small customer, by the way, the customer whose monthly bills are increased by a service charge, is not the average laboring man or the customer of less than average means. Such customers constitute a group which benefits by the charge. The very small user, the convenience user and the emergency user are made to more nearly pay the costs which they incur.

A large portion of gas users believe that the gas company should not sell to industries and that its service is seriously impaired by the use of gas in factories and in mills. They instinctively think of the large mills where some other fuel could be fairly easily substituted, but they do not generally consider a baker, heat treater and the small shop where it would be just as inconvenient and costly to substitute some other fuel as in the home.

Industrial Use of Gas

The fact that industrial service is curtailed during the times of greatest demand is quite generally understood, but not the fact that the comparatively low rates which have been, and which now are, in effect for domestic consumption have been made possible by the industrial user of gas because he has paid a considerable part of the household user's costs.

While the industrial user of gas has benefitted by having a superior fuel at a low price and the stockholders have benefitted by increased revenues, the policy of selling industrial gas has helped the home even more. It has made possible lower domestic rates; it has permitted greater developments, resulting in a bigger and better gas supply to the homes; and it has relieved the householder of much labor, inconvenience and expense.

The question which, perhaps, has been in the minds of a great many people, but which has not been very often asked, concerns the reasons for gas companies' policy of advising the more careful use of gas in more economical appliances, knowing that this policy will result in smaller gas bills for the customer and less revenue for the gas companies.

Proper Appliances

A great many complaints of poor service originate from poor appliances or adjustments which waste gas. A great many complaints of high gas bills are due to poor appliances or adjustments. Certainly it is good policy for the gas company to eliminate the causes of complaints as far as possible.

With higher gas rates it is inevitable that the average customer will waste less gas. If he does not use less gas, his bills at higher rates will, of course, be increased. It appears to be good policy to anticipate such a condition and to avoid dissatisfaction and complaints.

By reducing the waste of gas, particularly where the demands exceed the available supply, service to all customers can be improved. Some of the gas wasted by a part of the customers would certainly be appreciated by others during the times of shortage.

The elimination of waste will prolong the life of natural gas companies and it will extend the time during which natural gas with its many advantages can be enjoyed by many people.

In short, what is best for the gas company's customers, generally speaking, is best for the gas company itself.

Kinney TRADE MARK REG. U.S. PAT. OFF.

Depend upon it it's a Kinney Pump

Steady Continuous Service

—hour after hour, day after day,—requiring little or no attention, giving a steady consistent flow of the heaviest crudes, asphalt, tar and all viscous and bituminous products. When you find this condition, it is more than an even chance that it is a KINNEY PUMP.

Thousands of KINNEY PUMPS are telling the same story of consistent efficiency in refineries that dot the map of the United States and foreign fields. Low cost operation, low cost maintenance, trouble-proof service under all conditions,—these are the reasons why so many plants are depending upon KINNEY PUMPS—and why it would be profitable for you to investigate this pump in both its types—steam jacketed and plain.

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under any and all conditions. The simplicity of their mechanism, plus material and workmanship, have earned an enviable reputation for LUDLOW DOUBLE GATE VALVES. They are dependable in every sense of the word.

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9

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Gasoline Recovery Systems, Absorption and Compression.
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No Contract too large to complete with satisfaction and dispatch or too far away to handle.

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Larkin Improved Sand Pump

(PATENTED)

This illustration is the famous Larkin Sand Pump which is found in every oil field throughout the world.

Besides a full line of Drilling and Fishing Tools and Packers of all kinds and sizes, we manufacture the LARKIN Patent Never Slip Pipe Grip, which does away with the old-fashioned way of putting in casing with rope and tongs, and is less expensive, more durable and more easily handled.

LARKIN & CO.

Butler, Pa., U. S. A.

Oil Mining Methods In Europe Inspected By Canadian Experts

By Charles Camsell and Arthur Buisson
Of the Canadian Department of Mines

The Pechelbronn deposits are in the Oligocene and lie a short distance east of the Rhenan fault, which is one of the step-fractures associated with the caving of the voussoir of the plain of the Rhine. The stratum in the greater part of the area covered by mining operations is lightly folded and has a regular dip of 5 degrees to 7 degrees to the southeast. The layers have been subject to faulting with an orientation usually parallel to that of the Vosges Mountains.

The oil is in a series of sandy layers, from a few inches to a maximum of from 9 to 15 feet (3 to 5 m.) thick. These layers extend to a depth of several hundred meters and 15 have been worked. The sandy beds usually are fairly regular and persistent, and oil occurs at the same levels over a large area in the same section, although the sand may not be uniform in any one zone. It may be fine or coarse, pure or filled with clay and in many places small islands of sand are enclosed in a layer of marl.

Mining Methods

Before deciding on a plan for drainage galleries, it is necessary thoroughly to explore the deposit by numerous borings, which help also to determine the thickness of the deposits and possibly their capacity, to locate sections where water has replaced the oil, and to define the productive and sterile zones; also to free the beds from gas sufficiently to permit the driving of galleries with greater safety.

The drainage gallery is driven, as far as possible, in the lowest part of the bed parallel with the footwall, and 7 to 15 inches above the marl, with a slightly upward slope to permit the easy flow of the oil.

A drainage channel is dug in the center of the gallery right up to the working face. The channel is about 1 foot wide and 3 feet deep, and lined with wood with galvanized iron sheets in the lower section for the collection of the oil. By this means the oozing oil disappears almost immediately and leaves the floor of the gallery quite clean.

Occasionally smaller drains on each side of the gallery serve to collect oil dripping from the roof and sides of the gallery. If a lower oil-bearing deposit is met while driving the drainage gallery a cross drift is driven downwards to the edge of the deposit and a small pump installed to raise the oil to the main channel.

Usually one gallery is sufficient to drain one bed, but a second gallery is always driven parallel to and above the main drainage gallery and at a distance from it of about 75 feet. The purpose of this supplementary gallery is to facilitate the escape of gases and to offer greater security to the men in case of accident. The two galleries are connected together every 150 to 300 feet by transverse drifts, of which only the one nearest to the face is left open for circulation, the others being shut off by doors or filled in.

The supplementary gallery may also be used for drainage in certain cases, or it may be driven in sterile ground.

As the ground is not always regular and the sand bed is often very irregular in outline, it is often necessary to drive other subsidiary galleries and crosscuts in order to drain the whole deposit. Frequent bore-holes are driven in the sides and in the roof to permit the escape of gases from pockets that may have remained in the deposits and these holes also act as drains for the oil. Borings are made also to tap sand beds that are too small to justify the expense of driving galleries.

It is found that the pillars between the transverse drifts exhaust themselves of oil except when some partition or wall

Entire Safety—

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ALL house regulators are, of course, designed to reduce to a low pressure and are especially adapted for use in supplying private dwellings, whether connected to a high or low pressure service. But, there is **practical perfection** in every inch of the FULTON HOUSE REGULATOR.

When used for extreme high pressure (say from 100 to 500 pounds), where other regulators have been blown to fragments, or failed to work at all, we have never had an accident. Hundreds of these regulators are in use at isolated houses in the gas field, where gas is taken direct from the wells or high pressure lines.

Remember, that the FULTON HOUSE REGULATOR is only ONE member of the Chaplin-Fulton line of gas governors. It is well to bear in mind, when checking over your distribution system, that every member of the Chaplin-Fulton line is made to escape the defects you always find revealed after the winter's work.

Let us know what you need and we will quote you on the Chaplin-Fulton governor that fits.

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Organized 1884—oldest builders of gas regulators in the country. Built in all sizes, from 1 inch to 24 inches; for all service, 1 oz. up to 1,600 lbs. pressure to square inch.

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371

Are *Your* Wells Equipped With This New Norris Money-Saver?

It Pays for Itself Every Time You Use It

If you are not among the hundreds of operators who are adopting the new Norris Clutch-Type Standing Valve Puller, then every time you pull standing valves, you are missing a chance to make this improvement pay for itself.

The Norris is the simplest valve-puller arrangement possible, and yet—because of its simplicity—the most efficient. Just a few turns of the rods and the

NORRIS

Clutch Type
STANDING VALVE PULLER

gets the lower valve every time. It also has large solid bumping surface which alone would make the investment worth while.

We know so well, judging from the experience of users, that you will find the Norris Valve Puller a real money-saver that we are willing to let you try it at our risk. If it doesn't do all we claim for it, return it and the purchase price will be refunded. Remember, the Norris guarantee, backed by 17 years of square dealing, is behind this improvement. At leading supply houses or direct.

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Manufacturers of Oil Well Pumping Equipment

Robinson, Ill.

129

has prevented the free flow of the oil. A small recovery of oil is obtained from the dump where the oil still attached to the sand drains off slowly and is recovered.

If the bed were perfectly regular and without folds and partitions there would be almost no limit to the area that could be drained by a gallery. Under fairly favorable conditions the effect of the drainage would extend to a minimum distance of 300 feet.

Fire Prevention

The mining methods employed are governed by the all-important question of safety. The danger of fire is a constant menace in a petroleum mine, and it is necessary at every step to foresee and prevent its occurrence. Explosives are completely debarred in all underground operations. Even the pick is a dangerous implement, and may cause a spark by striking a nodule of iron pyrite. Fortunately small hand hammer drills, operated by compressed air, can be used with safety. The type in general use at present is known as the hammer Le Liegeois. The bit penetrates without difficulty the soft sand and marl at a rate of about 3 feet per day with a face section of about 33 square feet (½ square meters). As a further precaution horizontal holes about 7½ feet deep are driven into the face at the base to permit the escape of gas and water. Those holes also serve to facilitate the flow of the oil.

The working squad consists of two miners and one helper each using a hammer drill. They work four 6-hour shifts per day. The compressed air used amounts to 1,800 meters per meter of advance.

As the galleries are usually only 4½ to 6 feet in width by 6 feet in height not much timbering is necessary; except in a few places where the sand is loose and the roof and walls are lined with lagging. To protect the workers at the face of the gallery from sudden earth falls a movable sheet iron roof resting on rails suspended from the sets by hooks is brought forward as the work proceeds.

Ventilation of Workings

To facilitate ventilation, the main galleries are a little larger than the others. All workings in the neighborhood of the shaft are walled in concrete or brick, or covered with iron sheets. At the working face only iron or steel sets are used with also iron sheets for the walls as a precaution against the spread of fire.

As the health and lives of the men depend on the condition and temperature of the air in the mine it is necessary to know the composition of the circulating gases. The following figures given in cubic centimeters per litre are an average: Methane 800; saturated hydrocarbons 160; olefin 5; carbonic acid 3; azote 30; oxygen 2; oxide of carbon, nil.

The ventilation of the mine galleries must provide that the air will not contain more than 0.2 per cent of hydrocarbon gases and daily samples are taken of the gas in the galleries and at the working faces. The ventilation system has been carefully studied. The air is forced down from the upper galleries to the lower workings—a reversal of the procedure followed in coal mines—to prevent the heavy gases from collecting in the lower parts of the mine. Doors are placed to control at will the direction and volume of air. Air is brought to the working face by means of galvanized iron pipes with a diameter of from 11 to 22 inches, called canars, connected with a section of the main gallery, preferably at the crossing of a ventilation gallery.

The temperature of the crude oil at the face of the drift, in the drain or from borings, varies very little and is the same winter and summer, namely 13 degrees to 15 degrees Centigrade. A test made in the mass of the sand at a depth of 6 feet gave a temperature of 22 degrees. Galleries without ventilation gave temperatures varying from 14 degrees to 27 degrees.

Temperature tests taken last January gave the following results: Surface at-

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Especially Recommended For Pumping Oil

THIS Deming Horizontal Double-Acting Piston Pump Fig. 1696 is specifically designed for pumping oil or other liquids where high pressure is required.

Main frame is heavy box type and includes cross head guide and babbitt lined shaft bearings; **Cylinder** cast iron fitted with spring ring piston; **Crank Shaft,** best O. H. Steel, accurately machined; **Gearing** machine cut from solid and entirely enclosed; **Crosshead** has adjustable shoes to take up wear; Piston rod works through deep stuffing box with bolted gland. **Valves** are bronze balls on **bronze seats,** easily accessible.

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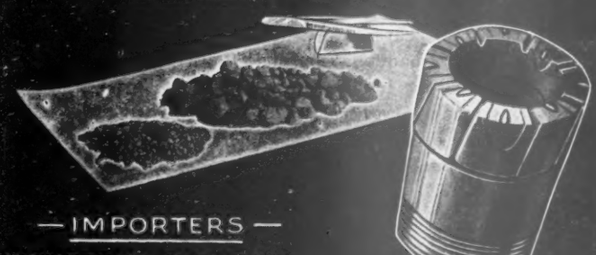

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mosphere 3 degrees; atmosphere at the bottom of shaft No. 1, .3 degrees; and of shaft No. 4, .15 degrees; at the outlet of the ventilation, .9 degrees.

All power used underground is generated by compressed air and traction is by mules. Only electric hand lamps of the acid or alkaline accumulator system are permitted underground.

Production and Cost

The average recovery of oil is: by drilling 16.7 per cent; by drainage 43.3 per cent; by sand-washing (experimental only) 31.7 per cent; leaving 8.3 per cent as loss.

The oil production per meter of tunnel, in metric tons, has been as follows: 1867-1888, 4.20 tons; 1917-1921, 7.80 tons; 1922-1923, 11 tons.

The annual production of crude oil has been; 1812-1866, 4,959 tons; 1867-1888, 14,427 tons; 1917-1921, 68,563 tons; at present, at the rate of about 100,000 tons per year.

The yield of the Alsace crude light oils of from 0.875 to 0.895 density by distillation, is about as follows: Essences 4 per cent; petroleum 23 per cent; intermediate oil 10 per cent; various lubricating oils 35 per cent; paraffin 2 per cent; residue, pitch and loss, 22 per cent. It is, therefore, a very asphaltic oil and poor in petroleum spirit.

The cost of production is divided approximately in the following proportions: Amortization of original plant installation 10 per cent; labor (including general expenses) 55 per cent; supplies (including general expenses) 6 per cent; power, (including general expenses) 15 per cent; shop work, (including general expenses) 5 per cent; miscellaneous, (including general expenses) 9 per cent.

At the present time the cost of extraction by means of seepage is about 30 per cent higher than by borings, but this difference will decrease very rapidly, as improvements are being made in the methods of operation.

Mr. P. de Chambrier has made the following statement: "Deposits which have been abandoned after producing respectively 60,000, 80,000 and 120,000 tons of oil, would be capable of producing 2½ times more by drainage, namely, 150,000, 200,000 and 300,000 tons, and the cost of production for these would be respectively 306.67 francs, 137.50 francs, and 53.33 francs, per ton of oil."

Conclusions

Underground mining by means of shafts and galleries is of very great industrial and economic interest, and, in addition, affords an opportunity of making important observations about the deposits, and of estimating, more accurately than previously, the oil resources contained in the beds.

By this means it has been proved that the clay contents vary from 5 to 40 per cent; that the sands contain from 15 to 20 per cent of crude oil; that a gallery with a section of 5 cubic meters may produce on an average 11 tons of crude oil per linear foot of advance; that the saturated sands contain usually from 12.5 to 13 per cent oil in weight, although this percentage may drop to as low as 5 per cent in poor ground; that the drained sands contain from 3 to 8 per cent of oil and on an average about 4.8 per cent.

The working conditions satisfactory. The mine is clean and the temperature medium and fairly uniform throughout the year. The men are not very much soiled with the oil and they wear oilcloth overalls. They work only 6 hours per day and the output has increased since the change from 8-hour to 6-hour shift. The oil is easily worked off the skin by the use of naphtha oil and change-rooms equipped with showers are available for the men.

The mining methods applied to the Pechelbronn deposits are relatively recent and no doubt many improvements will be worked out as the administration learns more about the unusual conditions under which they have to operate. The recovery has been increasing rapidly and improvements which are being made in

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THE CHARLES N. HOUGH MANUFACTURING CO.
Pumping Equipment
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STEELEX—BALL AND SEAT
The best that's made for use in territory where you have excessive sand in the oil.

BRONZEX—BALL AND SEAT
For use where lodestone or other elements which act on steel are in the water or where there is alkali in the water or oil.

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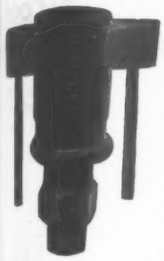
PUMPING POWERS, JACKS, STUFFING BOXES, ETC.

Lubricator Stuffing Boxes



Lightning Stuffing Boxes are an improved design and are made in two styles, with either loose seat or regular pattern. All are of the spring tension kind with a lubricator feature that makes them more desirable. They wear longer, require less attention, and are handier for the operator. Order from your dealer or direct from us.

Lightning Safety Casing Head Tops make a gas or oil tight joint around the tubing. The tubing is held in three tapered slips which grip the pipe and coupling, thereby preventing vibration and danger of a break at the coupling. Ask your supply dealer or write direct to us.

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We know, just as the shrewd and careful operator knows, how important it is to have a Valve Cup that you can depend on giving you the longest wear on the average against the many annoying conditions which are experienced in more or less degree in every oil field.

Adopt the RED GIANT Valve Cup for your wells and reduce your maintenance as well as increase your production.

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Making Valve Cups Since 1875

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Sole manufacturers also of the Genuine Karns Bow Spring, Graphite Bow Spring, Black Giant, Karns Copper Expansive and Parker Canvas Cups.

the methods of operating are gradually bringing down the cost per unit.

Whether or not this method of operation can be applied to Canadian or American oil beds is a question that could be answered only after serious investigation, but it deserves consideration as the day will come when we shall be faced with the problem of finding new supplies of fuel.

Wietze Field in Germany

The methods employed in recovering oil at Pechelbronn, Alsace, by shaft and galleries, are used also at Wietze, Germany, about 40 kilometers northeast of Hanover.

The method of working is in general similar to that applied at Pechelbronn, and whatever differences exist are due to differences in the physical character of the sands. Galleries are driven at a rate of about two meters a day and these are lagged with timber and in particularly soft places are cemented, or bricked. A central drainage trough is not used, but instead wooden troughs are hung at the bottom of each wall of the galleries and these carry the oil to the pumping stations. At one point a winze 40 feet deep had been sunk in a thick oil sand and used as a collecting basin.

The Wietze oil is a heavy black liquid with a specific gravity of .94 and containing only about 1 per cent of benzine. The underground workings are consequently fairly free of gas and no dangerous explosions are said to have occurred.

The oil sands are very soft and have a saturation of 42 per cent oil. Of the total oil 25 per cent is said to be recovered from the wells, 61 per cent is obtained from the shafts and galleries and it was proposed to recover the remaining 14 per cent by mining the drained sands and washing with hot water. The washing method was not yet being applied but all the experimental work had been done and a washing plant was being erected. By the washing methods the sands are placed in tanks and mixed with water having a temperature of 80 degrees Centigrade and the mixture agitated with rotating paddles. The result is a clear separation of oil from the sand grains.

Costs are said to be a little higher, though this is a point on which it is difficult to get accurate information. About 700 men in all were employed for a monthly production of 1,000 to 1,200 tons. The whole operation of mining was said to be very profitable, though it was being supported to some extent by Government subsidy. It is reported that the mine has recently closed down.

LARGEST FLOW OF GAS IN SUNBURST FIELD

GREAT FALLS, Mont., May 17.—The problem of handling the largest flow of gas in Kevin-Sunburst Field is confronting Contractor W. E. Burks, drilling the Potlatch deep test in Kevin-Sunburst Field.

Burks has cemented 15½-inch casing at 1,350 feet, to shut off the terrific gas flow. The well is now making 10,000,000 feet which is by 3,000,000 feet the largest gasser in the field. The location is in Section 21-34-1w, on the recognized "high" of the Kevin-Sunburst Dome.

This is the largest hole that has been completed through the Kootenai in this field, and in the big casing the gas is whistling up like a growing storm. If the gas is successfully controlled, the deep test should be drilled into the Ellis sand, first probable producing horizon, during the coming week.

NO WORLD OIL AGREEMENT

The Standard Oil Co. of New Jersey, through President Teagle, denies the report that it had entered into any agreement with the Royal Dutch Shell Co. for the division of the markets of the world between the two organizations, or any agreement looking to the payment of $125,000,000 to the Soviets in connection with future concessions.

A trouble-free casing head gas regulator

THE sturdy Davis Casing Head Gas Regulator, built with but one internal moveable part, is designed to operate faithfully under any condition. The counterweight holds the valve open; the vacuum closes it. It is practically accident-proof.

The Davis Catalog describing this and other Davis Valve Specialties designed especially for the oil field, is free for the asking. Address the G. M. Davis Regulator Co. at 409 Milwaukee Ave., Chicago, for your copy.

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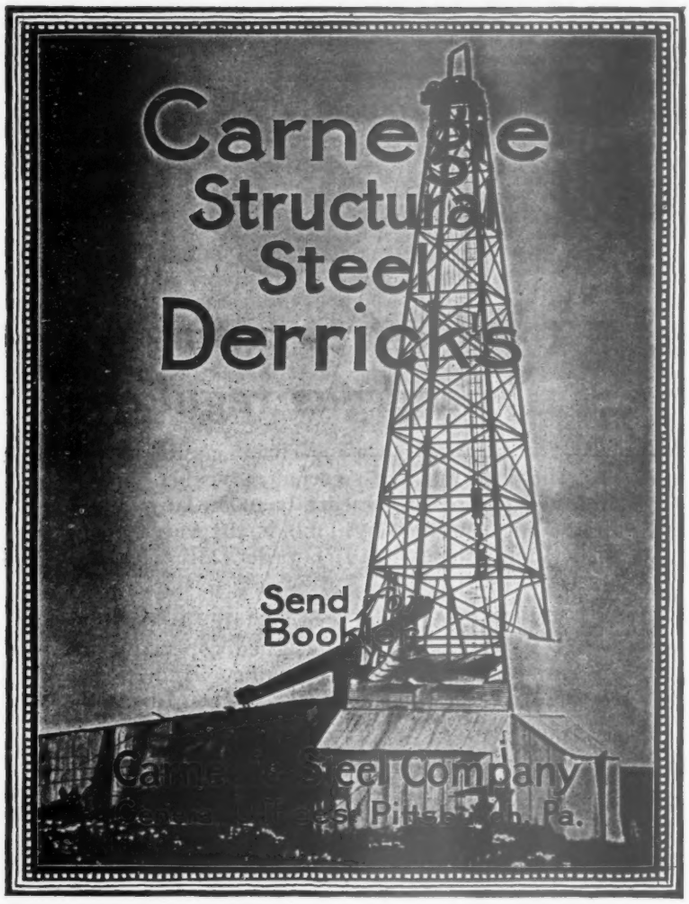

BACK in the years when wells were drilled more to obtain fuel for illumination than for automobiles, you men who are now called "old timers" put through your work with tools probably made from Colonial.

From that day to this, these men who know Tool Steel have maintained their allegiance with this product of the Colonial mill.

As Colonial Well Bit and Jar Steel served then, it serves now—the same high unvarying quality always. In your Tools it means service such as only high grade Tool Steel can give.

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4

Tank Car Shipments From Laredo Pools Largest in History

SAN ANTONIO, Tex., May 17.—Tank car shipments from Webb and Zapata counties during the month of April were the largest in the history of the district, totalling 682, or aproximately 153,450 bbls. The Texpata Pipe Line Co. handled 104,000 bbls. through its gathering system from the various pools to the loading racks on the Mex-Ten Railway at Mirando City. The balance was divided between the Magnolia Petroleum Co. and the Witherspoon Oil Co.'s lines to the loading racks. The quotation for the crude remains at 80 cents. The Magnolia Co. is preparing to increase its shipments to Aransas Pass, near Corpus Christi and crews are at work preparing storage tanks damaged during a Gulf storm several years ago. The crude will be barged from Aransas Pass to the refinery at Beaumont.

Smaller wells are the rule in the older pools and several of the old producers are being deepened from the 1,700 feet sands to 1,900 feet, where a sand yielding a lighter gravity crude is found. Lack of water is having its effect upon drilling operations, as well as the low price prevailing for the oil. Operations are slowing down in the hope of a better quotation in the near future.

The Los-Ojulas Pool, Quigg & Olsan's No. 2 is rated at 125 bbls. The Carnahan Producers & Refiners Co.'s No. 17 is a gasser. It is in the Schott Pool. The McCree Petroleum Co. abandoned No. 8 there. In the Wolcott Pool, the Magnolia Petroleum Co. abandoned Nos. 5 and 6 and No. 6 in the Ochoa district. At Oilton, the Witherspoon Oil Co.'s No. 1, survey 1007, got water and was abandoned. The Carolina-Texas Oil Co. is taking a core of the formation in No. 6 in the gas district at 1,285 feet and the Schott Oil Co. is doing the same in No. 21 at 2,360 feet.

Drilling Operations

Wells drilling in the various pools and as wildcats total 43, the deepest being a wildcat by the A. D. J. Syndicate on the Pratt ranch, 10 miles southwest of Encinal, Webb County, shut down for a heavier rig at 4,090 feet. It is reported this test is scheduled to drill to 5,000 feet. The Boyd Oil Co. (Humphreys) is rigging No. 1 Petty ranch in the northwestern part of Webb County and the Barnhart Oil Co.'s No. 1, northwest of the coal mines, is drilling below 675 feet.

The Magnolia Petroleum Co. is setting casing in No. 7 Ochoa at 1,695 feet and Chandler & Gear are doing the same in Nos. 4 and 6 Ochoa at 1,740 and 1,745 feet respectively. The Cin-Tex Co. is setting in No. 5 Garcia at 1,780 feet. Morgan-Gibble Co.'s No. 2 is rigging. In the Mid-Ojulas Pool, the Cornhuskers Petroleum Co.'s No. 3 is drilling into the sand. Wheatley and others' No. 8 is drilling. Quigg & Olsan's No. 3 is rigging and the Shasta Oil Co. has a derrick up for No. 6. The Associated Oil Co. is drilling a water well.

In the Wolcott Pool, the Weslaco Oil Co.'s No. 4 is rigging. H. H. Palmer set liner in No. 1 at 1,750 feet. The Magnolia Petroleum Co.'s No. 7 is around 1,400 feet. In the Schott Pool, the Carnahan Producing & Refining Co.'s No. 22 is showing light gravity oil at 1,925 feet. Allsworth Brothers' No. 4 is drilling below 1,700 feet. In the Aviator Pool, the Associated Oil Co.'s No. 9 is setting casing. R. H. Howard's No. 1 is showing gas at 1,725 feet. The Tydal Oil Co.'s No. 1 is setting casing at 1,700 feet and O. W. Killiam's No. 3 Albercas is drilling around 1,200 feet. The Cole Petroleum Co. is rigging No. 4 at Bruni, near the Duval County line.

In Zapata County, the Pippin Oil Co.'s No. 3 near Redondo is still fishing at 1,738 feet.

Calliham Field

In the Calliham Field in McMullen County, the Southern Gas Co.'s No. 1

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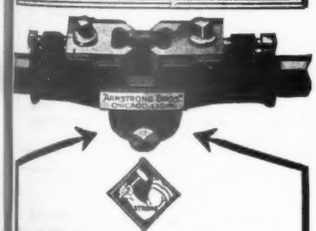

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Brown is a gasser at 855 feet. Lightfoot and others' No. 1 Lark on the north side of the Frio River, is drilling into the sand. The San-Balt Oil Co.'s No. 5 Stitz is bailing, as is Everett and others' No. 1 Stitz at 920 feet.

The Southern Natural Gas Co.'s No. 6 Lark is replacing the boiler that exploded. The Grubstake Investment Co.'s No. 5 Lark is fishing. Riley's No. 5 Stitz is drilling at 805 feet. The Eagle Drilling Co. is setting 6⅝-inch casing in No. 1 Mahoney, between the field and Three Rivers. Cohen and others' No. 1 Weeding, north of Three Rivers is showing gas and water in a sand at 827 feet. The crew is resetting the packer.

FILING NEW CHARGES AGAINST CARBON MEN

SHREVEPORT, La., May 17.—Charges are piling up against the carbon black manufacturers in connection with alleged violations of the conservation laws. Bills of information charging 11 carbon black manufacturers with 194 violations of law in connection with alleged theft of gas in the Monroe Field have been sent to district court for Ouachita Parish by Attorney General Coco for filing. The informations charge "pulling and consuming in the manufacture of carbon black more than 20 per cent of the potential capacity," of the wells. Individual officers of the 11 companies will be charged with the same offenses, and counting three officers for each company, it is estimated a total of 582 bills of information will be filed. Among the companies are: The Southern Carbon Co., The Central Carbon Co., J. M. Huber, The Texas La-Production Carbon Co., Carson Carbon Co., the Humphreys Carbon Co., the Palmer Corp., the Consolidated Carbon Co., the Union Gas Products, Inc., and the Ouachita Natural Gas & Oil Co. The date of the trials has not been set, but probably will be within two weeks.

HUMBLE AND MAGNOLIA EXTEND TEXAS LINES

HOUSTON, Tex., May 17.—The Humble Pipe Line Co. is laying 60 miles of 12-inch pipe on its trunk line system, north from the Webster tank farm and terminus. Webster is 25 miles southeast from Houston. Branch lines connect the tank farm with the refinery at Baytown and the terminals at Texas City. When the additions are completed the company's trunk line from Hearne south will have a capacity of 70,000 bbls. per day. The lines from Mexia and Powell tie into the trunk line from west-central Texas at Hearne.

The Magnolia Petroleum Co. is adding loops on its trunk lines from Hull station into Beaumont refinery. This will give the company three 8-inch lines on the south end of the company's system and increase the capacity to 70,000 bbls. per day. It was originally planned to have the new 8-inch line now being laid eastward from the Luling Field connect into the main lines at Hull station, but this has been changed and the line will be laid through to Magpet, a station south of the refinery at Beaumont.

PENNSYLVANIA CRUDE OIL CO.

PITTSBURGH, Pa., May 17.—The Pennsylvania Crude Oil Co. has been organized to acquire and consolidate the oil, gas and gasoline properties of the following concerns: The Crude Oil Co. of West Virginia, the Equity Oil and Gas Co. of Ohio, the Consolidated Oil Co. of West Virginia, the Athens County property of Ohio, the Shaffer Oil Co. of Ohio, the Allen Oil Co. of West Virginia, the Shields Oil and Gas Co. of Pennsylvania and the Patterson property of West Virginia. On these properties are 141 producing oil wells, 10 gas wells and three gasoline compressing stations. The acreage comprises over 10,000 and all the oil produced is Pennsylvania grade, some of it commanding a premium.

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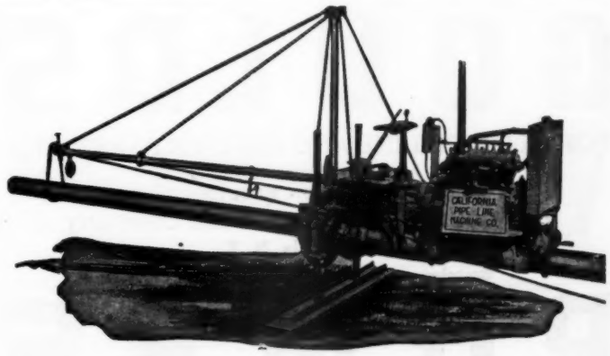

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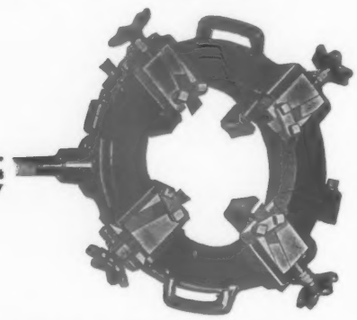

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all complete with perfect bolts, packing and adjustable jack-screw type stands.

All the above glass-enameled tanks have been used a comparatively short time, therefore, the glass enamel on the inside, together with the fact they have been well preserved with paint on the outside, assures you of virtually new tanks.

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If the commodity you have for storage and pressure requires a non-rusting, non-corrosive metal on the inside, we are positive these tanks will serve your purpose. The prices we are in position to quote will astonish you. Shipments immediately. Blue-prints and photographs on request.

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WELLINGTON DOME GAS PLANNED FOR DENVER

FORT COLLINS, Colo., May 17.—The Union Oil Co. of California expects to pipe natural gas from the Wellington Dome in northern Colorado to Denver to supply that city and other communities for industrial and commercial purposes.

A comprehensive plan for the development of the structure is being worked out and provides for the bringing of all the lands on the dome controlled by the company under a community lease which will enable it to drill the lands along geological lines instead of in accordance with individual lease requirements. Under this plan, the gas on top of the structure will not be allowed to go to waste but will be utilized to lift the oil on the flanks to the surface where it will be separated and marketed after having performed this service. In this manner, it is expected the quantity of oil recovered will be increased by preventing its imigration into the gas sand. If the oil is allowed to migrate into the gas sand to replace any gas taken off quantities of it will be required to saturate the sand and not much more than 1 out of 5 bbls. of this oil will be recoverable.

If development proceeds along this line, the structure will be drilled from the flanks towards the center, the gas pressure utilized to lift the oil, migration of oil into the gas sand prevented, and a more economical operation of the field will be made possible. The community lease provides for the distribution of royalties on a unit basis which will give each royalty owner a share in all wells drilled equal to the royalty he would otherwise receive from his individual tract and make possible a larger financial return by increasing the quantity of oil which may ultimately be recovered. The plan has met with a favorable reception by owners of royalty interests and its adoption is expected.

Development of the dome in this manner will not lessen the quantity of available gas but will permit its control and use and when taken off through the producing oil wells and the oil separated from the gas, will be marketed as dry gas. It is estimated that 25,000,000 feet a day represents the gas requirements of Denver and other communities to be served, or less than one-third of the capacity of the single discovery well.

INJUNCTION MADE PERMANENT

CHEYENNE, Wyo., May 19.—The injunction restraining the Wyoming Public Service Commission from compelling the New York Co. to reduce its gas rates in Casper has been made permanent by order of Judge T. Blake Kennedy in the United States Court at Cheyenne. The suit was started by the gas department of the New York Oil Co. in April, 1923, and was the result of an order by the commission decreeing a reduction of gas rates in Casper. In the bill of complaint, the plaintff prayed that the order be made void for the reasons that the penalties for the infraction thereof were too great, and that the order and schedule prescribed by the commission was so low as to be "non-compensatory, unremunerative and confiscatory," and in various other ways interfering with company's property rights.

SUNSHINE STATE ELECTION

ROSWELL, N. M., May 17.—G. C. Jensen, of Wichita Falls, Tex., one of the organizers of the Sunshine State Refining Co., was reelected president at the recent annual meeting here of stockholders. W. F. Ramming was elected vice president and H. M. Larkum secretary-treasurer. F. G. Keyes was reelected representative of the company in New Mexico with headquarters at Roswell. The directors adopted a resolution ordering an increase of capital stock from $1,000,000 to $1,500,000.

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MISTAKE IN BOUNDARY OF TEAPOT RESERVE

CASPER, Wyo., May 17.—President Coolidge's Oil Commission, Dr. George Otis Smith, Admiral H. P. Jones, R. D. Bush and Lieutenant Commander M. C. Robertson, secretary, made a trip to the Salt Creek and Teapot fields this week.

Doctor Smith said the commission wished to obtain first hand information regarding the production from this field after having inspected the Naval oil reserves in California. The commission, he said, had nothing to do with the controversy over the Teapot Dome, now in the Federal Courts, its business being to seek methods for the preservation of the Naval petroleum reserves in the future; "And I don't mean for a year or two either," he added. "I mean for the distant future when the United States Navy may have to have an oil supply that cannot be so easily secured on the open market as now."

It was mentioned that the oil men of Wyoming considered drainage the most prominent feature of loss of oil from the Teapot reserve and Doctor Smith concurred. He stated that seemingly a mistake had been made in fixing the boundary of the Teapot reserve in that it took in a part of the south end of the Salt Creek Field and this had therefore been confusing as it would appear that the Teapot Dome extended farther north than it actually does.

The commission was met at Casper by Commander H. A. Stuart who represents Admiral Strauss and A. E. Watts as receivers of Teapot Dome; W. W. Scott, supervisor of the Bureau of Mines for Wyoming and Montana, and J. W. Steele, assistant supervisor of the Bureau of Mines. When the commission reached the northern boundary of Teapot Dome, they were met by General Manager O. E. Dougherty and Field Superintendent J. W. Jordan of the Mammoth Oil Co., and were escorted over the Teapot Dome by these officials. The members remarked upon the excellence of the camps provided for the workers in the Salt Creek and Teapot Dome fields by the Midwest and the Mammoth Oil Co.

Doctor Smith said that as soon as the weather settled and the public began to use autos again, the demand for gasoline and oil would balance the market.

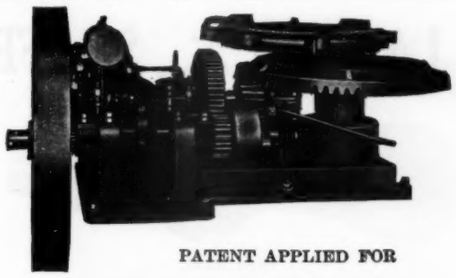
The trial of the case between the Government and the Mammoth Oil Co. to be held in the Federal Court of Cheyenne, has been set for October 7 by Judge T. Blake Kennedy.

CHANGE METHODS IN POLAND

Any larger yield of crude oil in the part of Tustanowice, Poland, where crude oil is expected to be found at a depth of 1,700 meters to 1,800 meters will decide the future of Tustanowice and the possibility of successfully working in this district for many years to come. Firms that commenced drilling have practically ceased to use the Canadian drilling system, and have introduced either the Pennsylvania rope system or the rotary, in order to attain great depth within a short time.

TO ERECT NEW FACTORY

OKLAHOMA CITY, Okla., May 17.—Slater Brothers Corp. of Tulsa announces its intention of erecting a factory at a cost of $25,000 and selling $125,000 of its stock to increase its working capital. Application has been made to the State Issues Commission for a permit to sell $150,000 of its $500,000 capital in the State. The report shows that $255,000 of the stock has been issued and that the corporation has assets of over $300,000, including oil and gas lease valued at $70,000. It is engaged in the manufacture and sale of rigs, derricks, machinery and supplies for oil fields. Guy P. Slater is president and treasurer and H. R. Slater vice president and secretary.



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SUPERIOR DROP-FORGED TOOLS

French Seek Control Of Petroleum Trade By New Legislation

By Special Correspondent

PARIS, France, May 8.—Just before adjourning the French Chamber of Deputies has adopted an act regulating the domestic oil trade in France and called "Regime interieur du petrole." Before becoming effective this act will have to be approved by the French Senate, which is not expected to pass upon it before the month of June.

The main parts of this act, as now approved by the Chamber of Deputies, are as follows:

Article 1. Wholesale imports of crude oils and petroleum products shall be subject to the obtaining of a permit previously granted by the Minister of Commerce and Industry on special request made by the interested party, who shall undertake to comply with the provisions of this act.

Said permit can only be withdrawn by the Minister of Commerce and Industry on one month's previous notice and in case of failure to comply with said provisions.

Wholesale import shall be considered any imported quantity equal or superior to 1,000 kilograms or one metric ton, or any quantities, which grouped together shall be superior to said amount, or equal or superior to 15,000 kilograms, or 15 metric tons imported in any one month.

The wholesale import of crude oils or petroleum products for the use of individuals or companies shall be prohibited, if said individuals or companies have failed to previously apply for and receive the permit here prescribed.

Must Keep Reserve Stock

Article 2. The permittee shall constitute and keep at all times reserve stocks amounting, for each class of products, to the equivalent of at least one-fourth of the quantities taken by him out of the custom warehouses during the previous period of 12 months. Should the amount of imported products decrease, said reserve stocks shall never be inferior to one-third of the quantities taken out of the custom warehouses during the first nine months of the previous year.

During the first year following the granting of the import permit, the permittee shall undertake to use one-fourth of the quantities imported each month for the constitution of said reserve stocks.

However, reserve stocks shall be reduced to an amount of one-tenth of the quantities imported, for all permittees importing less than 50 tons per month, if said permittees can prove that said imported products are to be directly delivered to the retail trade.

Consequently, all permittees shall have to deliver to the Minister of Commerce and Industry monthly statements showing by quantity and quality, the amount of their reserve stocks, their location, and the amounts taken out of the custom warehouses.

Decrees enacted by the Minister of Commerce and Industry shall prescribe the rules and regulations for the administration of this act.

Should any permittee fail to comply with the provisions of this act or submit false statements, the Minister of Commerce and Industry shall have the power to forbid the withdrawal by the permittee of all products held for him in the custom warehouses until he complies with the provisions of this act referring to the constitution of said reserve stocks.

Article 3. The permittees shall be subject to any rules referring to the priority concerning the supply of public services, which may be prescribed, in case of emergency, by the Council of Ministers, on recommendation of the Minister of Commerce and Industry and other interested ministers.

Article 4.—The permits prescribed shall replace the import licenses prescribed by the law of July 9, 1921, but shall not interfere with the provisions prescribed by Article 6 of the law of

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February 28, 1923, concerning the import of gasoline providing all imports shall buy from the State an amount of industrial alcohol equal to 10 per cent of the amount of gasoline taken out of custom house. Said alcohol is to be blended with gasoline, in the proportion of 50 per cent, to make what is called "Carburant National."

Article 5. An "Office National des Combustibles Liquides (Liquid Fuels Department), attached to the Minister of Commerce and Industry, shall be created, with a board of directors who shall nominate its staff.

Provisions for Research

Article 6. The duties of the Office National des Combustibles Liquides shall consist in gathering and supplying the interested French administrations and industrials, by means of private reports or otherwise, with all information and documents capable of helping to the improvement of the country's supply of liquid fuels of all kinds.

It shall have the power to organize and subsidize technical courses concerning the various branches of the oil industry, other liquid fuels and their practical use.

It shall coordinate and eventually encourage, by means of subsidies or premiums, all researches tending to the discovery of oil fields or to the improvement of the liquid fuels capable of replacing petroleum products.

It shall encourage, by means of subsidies or premiums, the extraction of the hydrocarbons contained in all bituminous minerals found in French territory.

It shall give its advice on all questions concerning the country's supply of liquid fuels of all kinds and on the use to be made of all resources obtained by the Government through diplomatic agreements, past or future. Its advice shall be called upon concerning all laws and decrees to be enacted relating to the regulation of research, transport, handling, storage and distribution of natural hydrocarbons. It shall not be permitted to trade in liquid fuels.

Article 7. Its financial resources shall be provided by means of:

The payment by all importers of crude oils and petroleum products, of an amount of 10 francs per ton of imported product, which amount shall be collected by the custom house officials. This payment shall be reduced to 1.50 francs per ton for all residues enjoying the benefit of a reduced tariff according to the law of August 5, 1919.

During a period of 10 years from the date of enactment of this act, the office shall use half of the receipts to subsidize tank steamers built in France and flying the French flag.

2. The profits realized by the organization called "the consortium" which was formerly in charge of all imports of gasoline and kerosene.

3. All subsidiaries, and gifts of all kinds, granted by the State, public administrations, chambers of commerce, associations or individuals to the Office National.

All receipts which may be collected by the office as a remuneration for services rendered.

Article 9. The Office National shall be managed by a director, assisted by a board of administrators, composed of 31 members, belonging: two to the Senate, four to the Chamber of Deputies, three to the Ministry of Public Works, three to the Ministry of War, two to the Ministry of Marine and 17 to the Ministry of Commerce and Industry.

Article 10. The present "Service des Essene et Petroles" shall be suppressed the day the Office National des Combustibles shall begin to fill up its duties.

TO TAKE BELLEVUE OIL

SHREVEPORT, La., May 17.—The Dixie Oil Co. has contracted to take all oil produced by Olmstead and others up to and including 100,000 bbls. from the Bellevue Field in Bossier Parish. The Olmstead interests constitute one of the largest producers in the Bossier shallow Field.

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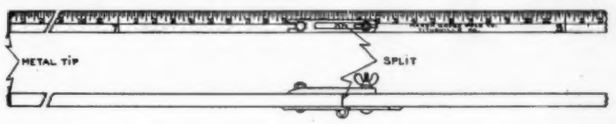

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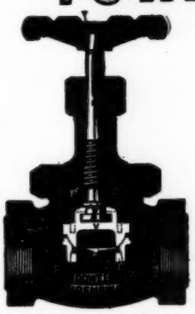

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Eastern Pipe Line Report for April Shows Small Gain

Receipts of crude petroleum during the month of April from the wells by the pipe lines of the Eastern division, which make regular monthly reports of their runs, were 2,131,736 bbls. The average receipts were 71,058 bbls. This is an increase of 1,382 bbls. in the aggregate when compared with the March figures, and a gain of 2,337 bbls. in the daily average, there being one more day in March than in April. The daily average receipts were 4,556 bbls. less than they were in April 1923. All the pipe lines which are included in this report showed increases in the amount of their runs with the exception of the Cumberland Pipe Line Co., the Tide Water Pipe Line Co., the Indian Refining Co., and the Pittsburgh Pipe Line Co.

The receipts of crude oil during the month of April from the Illinois Field amounted to 514,356 bbls. The daily average was 17,145 bbls. This is a loss of 96,933 bbls. in the aggregate and a decline of 2,574 bbls. in the daily average when the figures are compared with those for March. The total was 7,555 bbls. less than the total runs by these pipe lines during April, 1923, April receipts were divided as follows: Illinois Pipe Line Co., 485,319 bbls.; Tide Water Pipe Co., 29,038 bbls.

Total deliveries by the two companies in the Illinois Field during April amounted to 339,546 bbls., which is a decrease of 29,997 compared with the total for the previous month. The daily average was 11,319 bbls., or 602 bbls. less than the March daily average. The total is 84,002 bbls. less than the April, 1923, total. The April total was divided as follows: Illinois Pipe Line Co., 279,070 bbls.; Tide Water Pipe Co., 60,476 bbls.

Total deliveries of crude oil by the Eastern pipe lines during the month of April were 4,428,322 bbls. and the daily average was 147,611 bbls. This is a decrease of 131,715 bbls. in the total and an increase of 513 bbls. in the daily average, when the figures are compared with those for March. This is a decrease of 32,140 bbls. compared with the daily average of April, 1923. All of the companies included in this report had smaller shipments of crude oil during April than in March with the exception of the Eureka Pipe Line Co., the Lima division of the Buckeye Pipe Line Co., the Tide Water Pipe Co., the Pure Oil Co., the Paragon Refining Co., the Paragon Development Co. and the Pittsburgh Pipe Line Co.

For the first time since last September there was an increase in the amount of crude oil held in storage by these pipe lines. The total amount of this stored oil at the close of April was 10,922,742 bbls., which is an increase of 15,990 bbls. during the month of April. This increase, however, is small especially when compared to some of the changes which occur in a month in these stocks. The total compares with a high mark of 17,009,293 bbls. recorded at the end of February, 1921.

There was a decrease of 141,451 bbls. in the amount of Pennsylvania oil held by these lines, an increase of 36,069 bbls. of Lima oil, a decrease of 13,502 bbls. in the Kentucky grade, a gain of 127,095 bbls. in Mid-Continent grade and an increase of 7,780 bbls. in the Lima crude held in storage.

NEW WELL IN NEW MEXICO

FARMINGTON, N. M., May 17.—The well drilled by Charles Hubbell and associates 12 miles east of Farmington is 15 feet in a sand and is believed good for 200 bbls. or more. The sand was found at 790 feet, the aproximate depth of oil and gas formations in the wells at Aztec, and according to logs of other wells should be 60 feet thick. The oil is almost pure gasoline.

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WOULD CORNER HELIUM FOR THE ARMY AND NAVY

WASHINGTON, D. C., May 19.—The Military Affairs Committee of the House of Representatives has reported favorably a bill to corner for the Army and Navy air service the national supply of helium gas. Under its provisions Chairman Kahn says all helium producing lands may be turned into the public domain. The Secretary of the Interior will be authorized to purchase, lease or condemn helium lands and to produce and store the gas.

Existing Government plants for the making of helium, including those leased, will be transferred to the United States Bureau of Mines, which will be authorized to conduct experiments and researches for new supplies and improvement of methods of production, purification, storage and utilization of helium. Surplus supplies may be leased to American companies with presidential approval until needed for Government use. Export will be allowed only upon approval of the President to be obtained through the Secretary of the Interior. Violations of the law will be punished by $5,000 fine or one year's imprisonment or both.

NEW PANHANDLE GAS STRIKE

AMARILLO, Tex., May 19.—Two million feet of wet gas was found at 2,325 feet in R. G. Barnum's No. 1 Johnson, in the northwest quarter of Section 37, Block Y, Hutchinson County, Tex. The boiler was moved back to enable deeper drilling.

Wells which reached the pay in other portions of the Panhandle Field at 3,000 feet encountered a large amount of gas in a lime at the depth at which the Barnum well encountered the sand, leading many operators to believe that an oil pay strike is near in the Barnum well.

The Barnum well is between the Whittington producer on the Sanford ranch in southwest Hutchinson County and the Gulf discovery well for the field in north Carson County, these wells being 10 miles apart.

Classified Advertisements
Pages 124-125-126

LEGAL

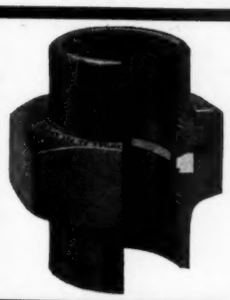
BIDS ASKED FOR SALE OF TEA POT CASINGHEAD GAS

Under and by virtue of an order of the Federal Court, District of Wyoming the Receivers of Naval Reserve No. 3 (Teapot Dome) will receive sealed bids up to and including May 26, 1924, for the casinghead gas from the wells on the Reserve. All bids submitted must contain a provision for saving the residuum gas and returning such portion thereof as may be necessary for operating the property. All bids should be addressed to or filed with William E. Mullen, Hynds Building, Cheyenne, Wyoming, attorney for the receivers who reserves the right to reject any or all bids.

(Signed) W. E. MULLEN,
Attorney for Receivers.

SALE OF UTE MOUNTAIN INDIAN TRIBAL LEASES

On June 10, 1924, at 2:00 p. m. there will be offered for sale at Durango, Colorado, exploratory oil and gas mining leases on six tracts, five large and one small, for a cash bonus in addition to royalty on production. Full information may be obtained from E. E. McKean, Superintendent, Consolidated Ute Indian Agency, Ignacio, Colorado, or from the Commissioner of Indian Affairs, Washington, D. C.



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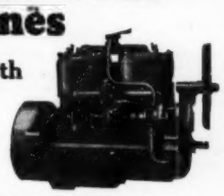

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS PIPE LINE REPORT FOR MARCH

Runs

	Month	Dy. Av.
Prairie P. L. Co. (est.)	2,999,250	96,750
Gulf P. L. Co.	1,154,168	37,231
Texas P. L. Co. of Okla.	475,807	15,349
Magnolia Pet. Co.	1,071,268	34,557
Empire P. L. Co.	904,717	29,184
Cosden P. L. Co.	700,741	22,605
Sinclair P. L. Co. (est.)	1,240,000	40,000
Other lines (est.)	6,758,000	218,000
Total March	15,303,951	493,676
Total February	12,985,034	482,242
Difference	1,318,917	11,434

Shipments

*Prairie P. L. Co.	3,688,715	118,991
Gulf P. L. Co.	1,090,101	35,165
Texas P. L. Co. of Okla.	631,682	20,379
Magnolia Pet. Co.	1,139,688	36,764
Empire P. L. Co.	803,366	25,915
Cosden P. L. Co.	697,630	22,504
*Sinclair P. L. Co.	2,444,921	78,869
Other lines	6,541,000	211,000
Total March	17,037,103	549,587
Total February	16,265,156	560,868
Difference	771,947	11,281

*Includes shipments of Texas crude oil.

Stocks

Prairie O. & G. Co. (est.)	21,500,000
Prairie P. L. Co. (est.)	2,000,000
Gulf P. L. Co. and Gypsy Oil Co.	9,226,094
The Texas Co.	7,133,365
Magnolia Petroleum Co.	8,186,394
Empire P. L. Co.	2,819,470
Cosden P. L. Co.	2,803,098
Sinclair Crude Oil Purchasing Co.	29,450,000
Carter Oil Co.	17,363,486
Other lines (est.)	8,300,000
Total March	108,781,907
Total February	108,467,566
Difference	314,341

*Estimated. †Includes shipments of Texas crude oil.

Note—Stocks do not include approximately 8,400,000 barrels of crude oil held in storage on private tank farms and leases.

Runs from Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March:

	Feb., '24	Mar., '24
Nat. Transit	164,316.99	185,290.67
S. W. Pa. P. L.	75,221.17	81,655.65
Eureka P. L.	357,928.89	362,761.55
Buckeye P. L. (Macksburg)	228.048.15	251,756.16
Buckeye P. L. (Cleveland)	14,273.73	14,832.79
Buckeye P. L. (Lima, etc.)	122,684.93	137,435.84
Indiana P. L.	11,250.90	11,800.24
Cumberland P. L.	344,250.58	392,446.03
N. Y. Transit	14,834.30	16,170.54
Tidewater P. L.	138,723.76	143,100.67
Pure Oil P. L.	167,959.35	180,965.13
Emery P. L.	31,706.85	33,727.72
Indian Ref.	334,580.56	358,328.86
Paragon Dev.	38,179.65	48,024.82
Pittsburgh P. L.	7,701.68	8,805.98
Swiss P. L.	.....	.....
Riggs Ref.	4,206.43	3,261.59
Union P. L.	24,152.23	.....
Fords Brk. P. L.	655.64	.....
Allegany P. L.	2,000.04	.....
Total	1,972,675.82	2,130,354.23
Daily average	68,023.30	68,721.10

Note—Indian Refining Co. also reported other receipts of 117,518.90 bbls. Paragon Refining Co. had other receipts of 165,-165.31 bbls. Paragon Development Co. had other receipts of 5,958.28 bbls.

Petroleum Deliveries

The following tables exhibit the shipments of regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March.

	Feb., '24	Mar., '24
Nat. Transit	486,253.43	578,327.02
S. W. Pa. P. L.	254,674.24	314,008.11
Eureka P. L.	155,109.82	108,979.21
Buckeye P. L. (Macksburg)	61,022.93	106,840.64
Buckeye P. L. (Cleveland)	1,214.08	1,454.70
Buckeye P. L. (Lima, etc.)	739,091.57	653,736.83
Indiana P. L.	931,034.16	931,328.19
Cumberland P. L.	135,557.40	166,493.36
Southern P. L.	.....	.....
Crescent P. L.	17,687.64	.....
N. Y. Transit	537,801.63	621,559.30
Northern P. L.	86,071.92	126,860.15
Tide Water P. L.	172,436.85	100,122.33
Pure Oil P. L.	171,466.69	187,933.56
Emery P. L.	30,015.92	33,404.60
Paragon Ref.	122,507.36	175,304.63
Indian Ref.	334,496.32	394,832.51
Paragon Dev.	41,926.72	48,024.82
Pittsburgh P. L.	8,857.43	10,826.19
Swiss P. L.	.....	.....
Riggs Ref.	.....	.....
Union P. L.	23,846.96	.....
Fords Brk. P. L.	412.00	.....
Allegany P. L.	1,731.89	.....
Total	4,313,216.96	4,560,037.15
Daily average	148,731.62	147,097.97

Note—Indian Refining Co. also reported other deliveries of 42,047.54 bbls.

Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio Indiana and Kentucky at the close of February and March were as follows:

	Feb. '24	Mar., '24
Nat. Transit	1,151,603.34	1,077,014.44
S. W. Pa. P. L.	841,472.05	716,972.09
Eureka P. L.	1,803,132.43	1,707,154.62
Buckeye P. L. (Macksburg)	637,752.28	562,665.87
Buckeye P. L. (Cleveland)	22,476.72	20,407.00
Buckeye P. L. (Lima, etc.)	2,865,736.65	2,746,917.29
Indiana P. L.	639,362.77	634,372.32
Cumberland P. L.	579,500.49	535,390.03
Southern P. L.	629,869.39	582,467.41
Crescent P. L.	50,361.96	60,361.96
N. Y. Transit	1,074,434.97	968,802.11
Northern P. L.	720,807.20	576,096.05
Tide Water P. L.	.....	.....
Pure Oil P. L.	401,174.31	395,203.14
Emery P. L.	5,814.65	6,414.43
Paragon Ref.	200,959.72	191,901.79
Indian Ref.	133,532.05	122,397.33
Paragon Dev.	14,353.98	12,973.23
Pittsburgh P. L.	8,512.90	.....
Swiss P. L.	.....	.....
Riggs Ref.	632.31	252.04
Union P. L.	11,306.07	.....
Fords Brk. P. L.	367.54	.....
Allegany P. L.	894.40	.....
Total	11,844,068.08	10,906,752.16
Decrease	1,063,133.86	937,315.92

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of February and March, showing the gross stocks of the above fields:

	Feb., '24	Mar., '24
Pennsylvania	4,019,060.63	3,886,429.47
Lima	981,570.80	1,907,631.02
Kentucky	1,569,281.44	1,417,699.10
Mid-Continent	5,207,220.78	4,511,475.56
Illinois	66,934.43	83,517.01
Total	11,844,068.08	10,906,752.16

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1921	1922	1923	1924
January	74,460	67,702	75,790	62,638
February	70,054	75,096	71,093	68,023
March	68,555	78,531	76,592	68,721
April	65,036	75,462	75,614	.....
May	65,466	77,592	77,365	.....
June	62,438	76,193	77,592	.....
July	59,486	76,436	71,879	.....
August	64,888	79,387	76,910	.....
September	60,110	78,512	72,358	.....
October	57,688	77,209	76,266	.....
November	58,470	75,313	70,762	.....
December	61,000	73,351	69,271	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for past four years:

	1921	1922	1923	1924
January	115,550	119,792	171,067	145,518
February	96,736	111,362	164,219	148,732
March	84,168	127,753	185,487	147,098
April	101,015	127,068	179,751	.....
May	100,253	127,840	177,102	.....
June	105,037	137,638	173,598	.....
July	97,096	137,872	168,360	.....
August	101,652	153,275	142,766	.....
September	117,440	158,761	137,266	.....
October	105,728	165,345	134,597	.....
November	121,803	165,677	131,426	.....
December	104,023	172,861	139,909	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1922	1923	1924
January	16,297,858	14,040,567	12,997,242
February	17,009,293	14,028,437	11,844,963
March	16,877,937	13,873,140	10,906,752
April	16,777,842	13,737,576	.....
May	16,948,962	13,815,632	.....
June	16,810,169	14,541,263	.....
July	16,669,286	14,645,584	.....
August	16,235,229	14,770,539	.....
September	16,228,545	14,803,444	.....
October	16,757,746	14,504,111	.....
November	16,171,972	14,167,726	.....
December	14,323,765	13,444,361	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

	Receipts	Shipments	Stocks
1923—			
March	2,978.88	12,417.06	34,579.20
April	3,529.12	3,054.09	35,054.23
May	3,538.73	4,856.42	33,736.54
June	2,927.71	4,743.78	31,920.15
July	2,996.64	1,471.57	33,446.22
August	3,199.07	3,769.34	32,876.95
September	2,829.79	5,823.38	19,883.27
October	2,694.23	5,261.81	17,316.79
November	2,980.66	4,150.98	16,184.47
December	2,893.07	3,499.27	15,640.27
1924—			
January	2,942.19	8,641.71	9,940.75
February	2,151.78	1,926.55	10,073.98
March	3,398.78	1,716.23	11,756.43

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, April 1	3,126,648.89
Runs from wells	661,836.13
Other receipts	150,368.93
Regular deliveries	313,371.13
Other deliveries	305,414.30

The amount of Illinois oil run by the Tide Water Pipe Line Co. in March was 29,464.23 barrels, and deliveries were 94,-271.39 barrels. Adding these figures to those of the Illinois Pipe Line Co., makes the runs and deliveries from the Illinois Field as follows:

	Runs	Deliveries
1923—		
March	626,006.81	472,930.70
April	521,910.87	433,548.63
May	624,107.98	533,515.00
June	582,511.82	569,137.77
July	594,653.42	493,269.17
August	594,747.94	367,152.23
September	542,561.59	305,955.40
October	576,867.99	347,113.53
November	546,859.43	295,092.99
December	534,185.94	283,942.43
1924—		
January	493,337.25	288,792.99
February	535,490.70	353,613.16
March	611,289.36	389,543.51

The Tide Water Pipe Co., Ltd., also delivered in March 305,786.59 barrels of Oklahoma oil. The total deliveries of all grades by the Tide Water were 462,181.31 barrels.

AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Av. bbls. per wk.—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans Baton Rouge	Pt. Arthur Sabine Pass	Tampa	Total	Total All Ports
November	136,731	36,281	659,169	156,800	85,169	1,074,031	.....	219,331	.....	.....	219,331	1,293,362
December	132,803	48,545	609,903	163,485	154,324	1,098,960	.....	164,835	.....	.....	164,835	1,263,795
January	138,500	15,400	665,400	160,400	100,600	1,080,600	.....	172,000	.....	.....	172,000	1,252,600
February	90,250	36,250	832,000	208,250	36,250	1,203,000	.....	196,250	.....	.....	195,250	1,398,250

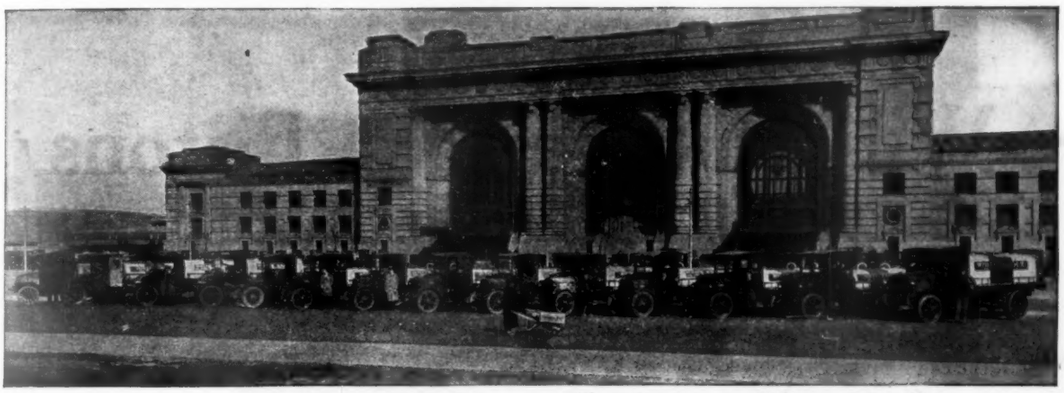
AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Av. bbls. per wk.—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans Baton Rouge	Pt. Arthur Sabine Pass	Tampa	Total	Total All Ports
September	53,600	113,000	253,200	132,000	149,600	801,400	355,200	279,400	176,000	44,800	714,200	1,455,600
October	91,250	48,000	198,500	134,000	204,000	800,750	247,000	352,500	95,000	12,500	707,000	1,507,750
November	67,200	108,869	270,669	132,500	195,060	764,200	345,490	359,331	147,469	33,367	885,731	1,649,131
December	105,000	133,679	240,254	144,739	300,545	924,217	420,224	492,709	186,949	51,258	1,151,140	2,075,357
January	112,800	118,200	552,000	97,800	215,800	603,200	358,800	248,000	137,500	20,800	772,200	1,553,600
February	134,750	175,750	195,250	102,750	299,250	907,750	372,500	296,000	190,250	36,500	895,250	1,803,000

GROSS PRODUCTION BY MONTHS AND DAILY AVERAGE IN THE U. S. FOR 12 MONTHS

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Wyoming-Montana	Other fields	Total
1923—										
April:	Month	20,695,959	14,399,619	8,548,651	2,624,430	2,893,290	2,224,890	3,670,984	3,286,090	58,343,914
	Daily average	689,865	479,987	284,955	87,481	96,443	74,160	122,366	109,536	1,944,794
May:	Month	21,535,365	15,658,782	8,826,829	2,852,217	3,250,846	2,298,804	3,650,903	3,550,357	61,624,103
	Daily average	694,689	505,122	284,736	92,007	104,866	74,155	117,771	114,527	1,987,874
June:	Month	22,667,106	15,572,730	9,129,282	2,797,830	3,401,172	2,086,670	3,470,176	3,413,155	62,538,121
	Daily average	755,570	519,091	304,309	93,261	113,372	69,392	115,673	113,771	2,084,404
July:	Month	25,262,082	15,260,184	11,258,042	2,448,566	3,713,738	1,883,481	4,245,547	3,334,110	68,004,709
	Daily average	814,906	492,264	363,518	78,986	119,798	60,725	136,953	107,552	2,193,703
August:	Month	26,440,005	14,049,076	12,157,439	2,316,330	3,292,580	1,952,349	4,290,406	3,479,977	67,977,303
	Daily average	852,903	453,196	392,172	74,720	106,213	62,979	138,400	112,258	2,192,816
September:	Month	25,762,487	13,512,220	13,879,683	2,234,736	3,164,900	1,737,430	4,811,850	3,269,551	68,373,857
	Daily average	858,750	437,074	429,323	74,491	105,497	59,581	153,063	105,468	2,213,797
October:	Month	24,676,400	13,961,782	15,933,383	2,336,346	3,120,274	1,837,990	5,640,880	3,475,913	67,783,968
	Daily average	792,787	418,133	513,980	75,366	100,654	59,290	114,223	112,126	2,186,665
November:	Month	22,397,848	12,324,620	15,556,507	2,268,840	2,973,000	1,816,860	4,793,466	3,138,404	65,270,353
	Daily average	746,595	411,154	518,550	75,628	99,100	60,562	159,782	104,616	2,175,353
December:	Month	21,899,247	12,232,259	10,065,856	2,345,150	4,017,850	1,919,574	5,304,328	3,147,812	60,932,076
	Daily average	706,427	394,589	324,705	75,650	129,608	61,923	106,591	101,542	1,901,004
1924—										
January:	Month	20,912,500	12,115,353	10,089,291	2,254,873	3,686,689	1,827,053	4,631,395	2,955,500	58,473,654
	Daily average	674,597	397,363	325,461	72,738	118,925	58,937	149,400	95,339	1,886,709
February:	Month	19,341,236	12,236,637	10,272,024	2,112,853	3,302,750	1,697,893	4,276,796	2,997,701	56,236,789
	Daily average	666,939	421,953	357,656	72,857	113,888	58,548	147,438	103,369	1,942,649
March:	Month	19,913,262	13,267,851	11,501,440	2,206,425	3,882,695	1,791,049	5,992,316	3,267,769	63,812,709
	Daily average	642,363	431,221	373,450	71,175	125,248	57,775	193,784	105,089	2,058,473
Total 12 months		271,403,487	163,001,104	136,913,416	28,798,585	40,699,775	23,122,953	48,426,654	39,305,429	751,676,473
Daily average		743,571	446,578	375,219	78,908	111,506	63,077	132,700	107,686	2,058,599

White Eagle Oil Company's Kansas City Fleet of Partition Mounted, 3-Point Supported Truck Tanks



Standardized Partition Mounted 3-Point Supported Truck Tanks

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Especially designed for mounting on the Ford Truck.

300 GALLON, 3 COMPARTMENT
Oval 28x38 inches.
Divided 150-100-50 Front to Rear.
Especially designed for mounting on the following and other trucks having frame dimensions 30 to 34 inches in width and 84 to 92 inches of length back of seat:

Name of Truck	Model	Name of Truck	Model
Auto Car	21UF	G M C	K16
Bethlehem	KN&KD	International SB	F
Commerce	E	Rainer	RD9&11
Chevrolet	G	Stewart	16
Conestago	G	White	

350 GALLON, 3 COMPARTMENT
Oval 30x40 inches.
Divided 150-100-100 Front to Rear.
Especially designed for mounting on the following and other trucks having frame dimensions 30 to 34 inches in width and 84 to 92 inches of length back of seat:

Name of Truck	Model	Name of Truck	Model
Chevrolet	G	Oldsmobile	
G M C	K16	Reo	
International	T	White	

400 GALLON, 3 COMPARTMENT
Oval 30x40 inches.
Divided 200-100-100 Front to Rear.
Especially designed for mounting on the following and other trucks having frame dimensions 32 to 36 inches in width and 96 to 106 inches of length back of seat:

Name of Truck	Model	Name of Truck	Model
Apex	C&D	International	21
Comet	1P2	Jones	31A
Dart	H	Maxwell	1½-Ton
Day-Elder	A	Napoleon	9&11
Garford	25	Nash	2018
Giant	15	Old Reliable	A
G M C	31A	Reo	
Grant	10	Ruggles	20AR
Graham-Dodge	C	Sullivan	F

500 GALLON, 3 COMPARTMENT
Oval 34x44 inches.
Divided 200-200-100 Front to Rear.
Especially designed for mounting on the following and other trucks having frame dimensions 30 to 36 inches in width and 100 to 108 inches of length back of seat:

Name of Truck	Model	Name of Truck	Model
Apex	D	Maxwell	1½-Ton
Comet	1P2	Moreland	1½-Ton
Commerce	EP	Napoleon	11
Garford	25	Old Reliable	A
G M C	31A	Sullivan	F
Grant	10&15	White	20
International	G		

600 GALLON, 3 COMPARTMENT
Oval 34x44 inches.
Divided 225-225-150 Front to Rear.
Especially designed for mounting on the following and other trucks having frame dimensions 32 to 38 inches in width and 118 to 126 inches of length back of seat:

Name of Truck	Model	Name of Truck	Model
Atco	W20	Northway	B2
Available	H2&2½	Olympic	2 Ton
Conestago	30	Paige	5018
Dart	M	Rainer	8R
Garford	70H	Pierce Arrow	X4
G M C	41A	Republic	19
Gramm Bernstein	20	Schacht	2
Halk	2	Service	36
Indiana	20	Standard	76
Jumbo	20	Sterling	2 Ton
Larrabee	8k	Traffic	7A6
Mack	AB	Transport	50
Master	MO&W	Triumph	H
Nash	3018	Ward La France	2B
National	HA	Vim	22
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Standardized 600 Gallon Size

Standardized Specifications

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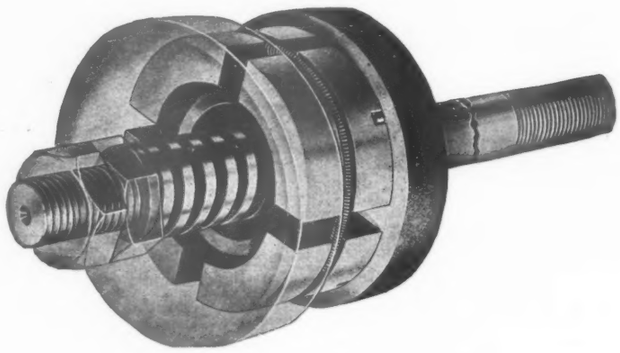

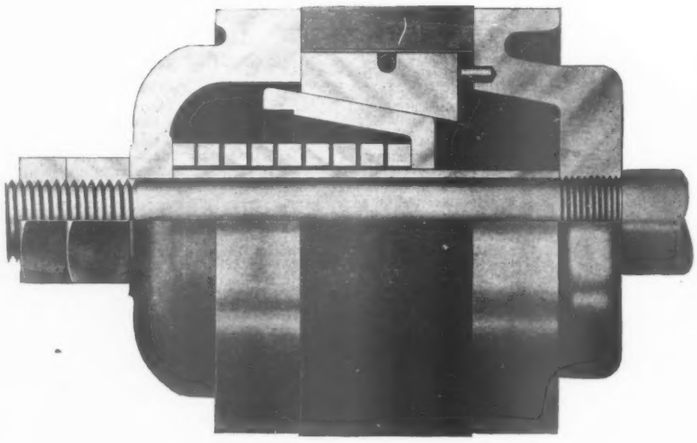

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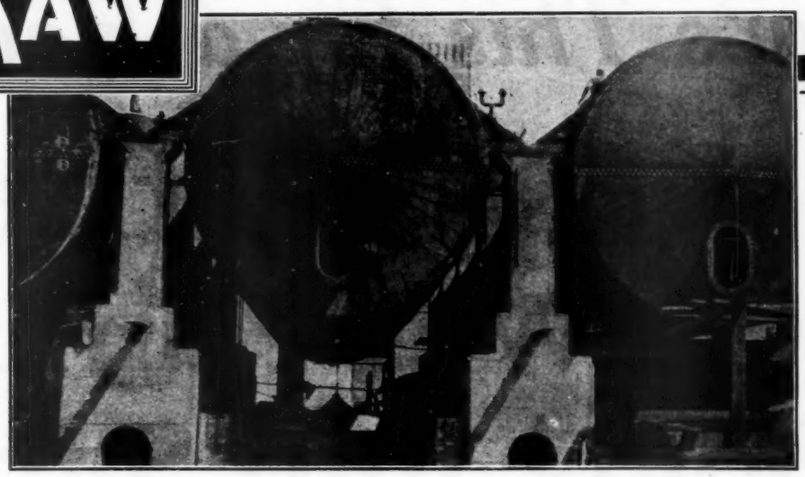

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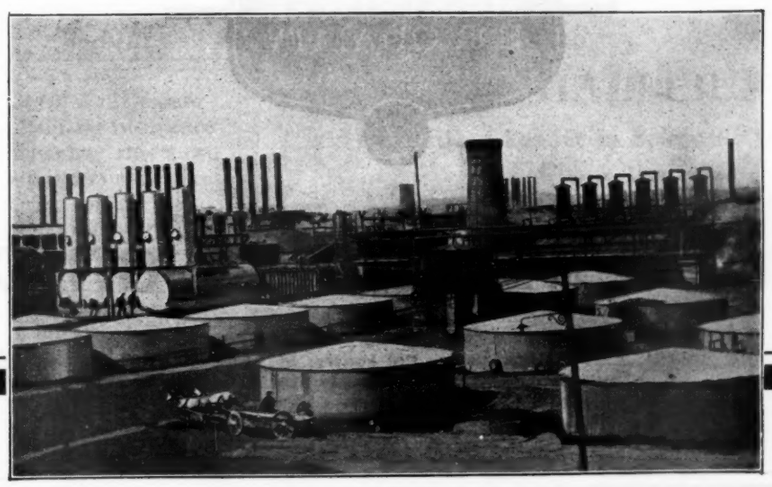

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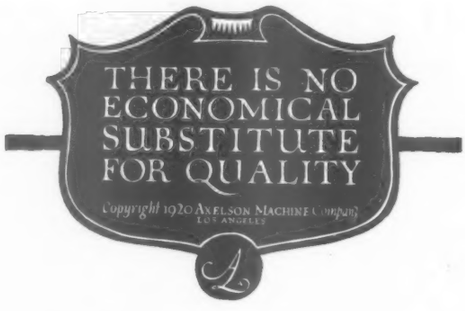
A similar percentage prevails in many other oil fields
Users Will Tell You Why



Axelson Machine Company

General Offices and Western Factory: Los Angeles
Eastern Sucker Rod Factory: St. Louis
Mid-Continent Office: 1023 Kennedy Bldg., Tulsa, Okla.
Mid-Continent Distributors: Frick-Reid Supply Co.
Casper, Wyoming, Office: With Frick-Reid Supply Co.

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Halliburton Process

No Upkeep

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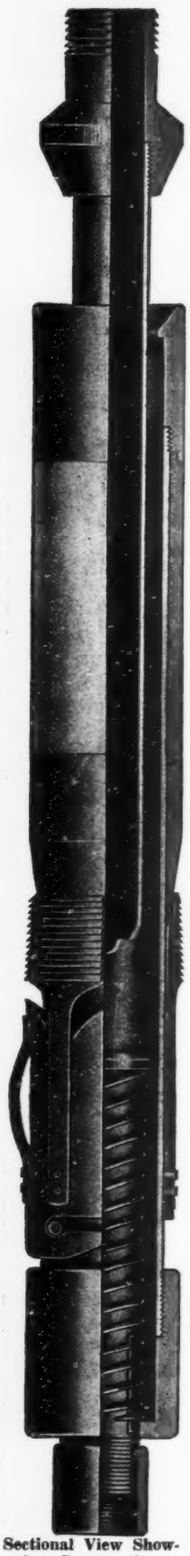
Scientific Oil Well Cementing is a Paid-Up Insurance Policy covering the most serious hazards that an oil well is subject to---water, collapse of casing, gas blow-outs, etc., etc.

ERLE P. HALLIBURTON
Recognized Leader in Scientific Oil Well Cementing
Duncan, Oklahoma
EQUIPMENT AVAILABLE FOR ALL FIELDS

106



Sectional View Showing Construction

For Packing Flowing Wells

But Also the Best All-Purpose Packer

The photograph shows drilling crew of a Thompson & Black well at Bruner Station, Oklahoma, ready to open a GUIBERSON Tubing Oil Saver, and run a GUIBERSON Control Head Packer into the well.

This well was flowing 700 barrels. Flow was released only for the moment required to open the Oil Saver wide and admit the packer.

The GUIBERSON Control Head Packer has been run in wells flowing 2,500 barrels. This packer permits the upward flow of gas and oil between packer and tubing, as the valve at top of packer is not closed until the packer is set.

This packer offers tremendous advantages to the scientific operator. Our new folder explains its operation and advantages. Allow us to send you a copy.

At your supply house. Fully patented.

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Box 1106, Dallas, Texas
CALIFORNIA BRANCH: 1737 E. 7th St., Los Angeles, Cal.

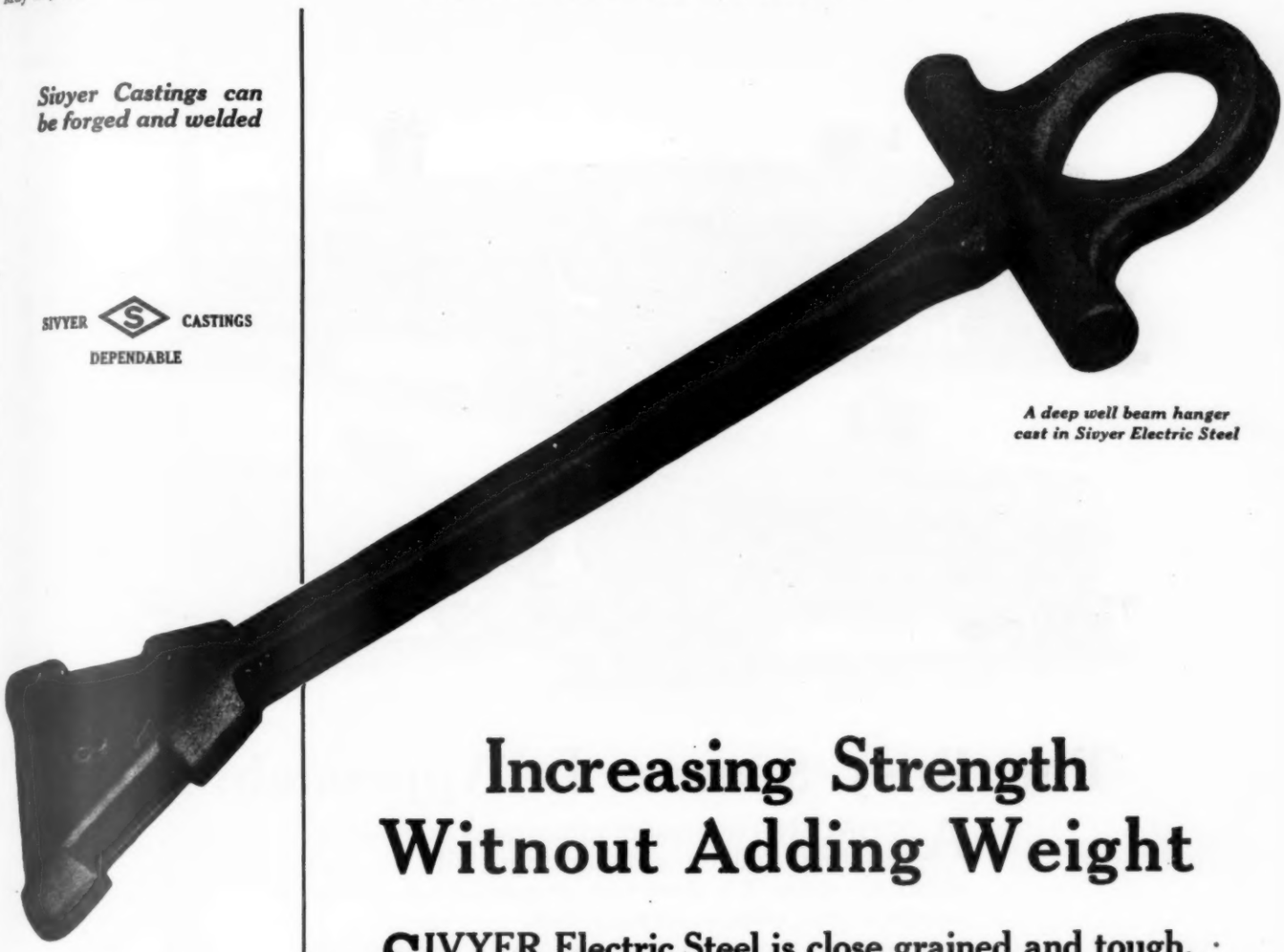
314 New Daniel Bldg., TULSA | **825 Mason Bldg., HOUSTON** | **506 Trust Bldg., NEWARK, O.**

GUIBERSON

BETTER BE SAFE THAN SORRY

Sivyer Castings can be forged and welded

SIVYER S CASTINGS
DEPENDABLE



A deep well beam hanger cast in Sivyer Electric Steel

Increasing Strength Witnout Adding Weight

SIVYER Electric Steel is close grained and tough. This permits the casting of parts, similar to the one pictured, without adding bulk or weight to provide the required exceptional strength. This particular part, for example, is called upon to bear heavy strains as a deep well beam hanger. Yet, it is highly desirable that it be light in weight. Forging of the part is impractical because of its design. By casting the hanger in Sivyer Electric Steel extremely satisfactory field results have been obtained. The manufacturer using the part feels safe in guaranteeing it to be practically unbreakable. On the other hand, the weight of the hanger with its assembly is but 103 pounds—light enough to be easily handled.

Send Blue Prints

In this case, as in so many others, the toughness of Sivyer Electric Steel has enabled a manufacturer to provide parts of great strength without sacrificing light weight. The inherent strength of Sivyer Electric Steel plus the excellent annealing practice of the Sivyer foundry—where the castings are grouped for annealing according to the heat treatment that they require—gives Sivyer Castings a close-grained toughness that minimizes breakage and wear.

If you are having trouble with forged parts that fail to stand up as well as you expect them to, or if you are using parts to which extra weight has had to be added to provide the desired strength, Sivyer Electric Steel Castings may solve your problem. If you will send us blue prints of the part with a statement of your difficulties we will be glad to recommend possible solutions without obligation on your part

SIVYER STEEL

SIVYER STEEL CASTING COMPANY, MILWAUKEE

The Busy Season Is Approaching

ACCORDING to present indications this seasons gasoline and oil consumption will be fully equal to—even if it does not exceed—the requirements of any season already past.

Is your tank car equipment equal to this demand without your being subjected to petty annoyances and troubles consequent upon not having sufficient transportation?

The Cambria Plant of Bethlehem Steel Company is equipped with every modern facility to build tank cars of every class—in any capacity—for the transportation of liquid or semi-liquid products.

Cambria Steel Tank Cars are built in conformity with the specifications in use on all American railways.

By ordering your tank cars now, you will avoid the high cost of delay.

Estimates gladly furnished upon request.
Let us know your requirements.

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Sales Offices:

New York Boston Philadelphia Baltimore Washington Atlanta Pittsburgh Buffalo Cleveland Cincinnati Detroit Chicago St. Louis San Francisco

BETHLEHEM STEEL EXPORT CORP., 25 BROADWAY, NEW YORK CITY. Sole Exporter of Our Commercial Products.

2298

BETHLEHEM
CAMBRIA STEEL TANK CARS

Are You Getting the Advantage of This New Idea in Cable-Tool Drilling?

Before the SPIRAL STEM was included in the TIFOCO line of quality oil-field tools, we made a thoro investigation to see that the definite and important advantages claimed for it were really gained by the user. We found that they were—and since then scores of cable tool drillers have confirmed our decision.

Briefly, the advantages presented by the SPIRAL STEM are these—The Spiral Stem: (1) **Prevents Crooked Holes;** (2) indicates deviation; (3) mixes mud; (4) prevents mud rings; (5) cleans path for bailer; (6) reduces whipping; (7) guards against caving; (8) simplifies fishing jobs; (9) protects casing shoe; (10) protects casing from line-cutting; (11) perfects under-reaming; (12) strengthens walls; (13) lessens breakage of jars; and (14) lasts practically forever—being made of the highest-grade **forged steel.**

If you are a cable tool operator, and are not getting these advantages, you are **missing** a chance to insure yourself against crooked holes, save money and increase efficiency in general that a great many other dealers are **enjoying.** Full details on any point on which there is doubt cheerfully furnished on request.

The Titusville Forge Company

Titusville, Pennsylvania

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in Mid-Continent and Coastal Fields

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SPIRAL STEM
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STEAM REFINED STOCK:
600, 650, 600 Warren E
FUEL OIL . . . . . all grades
BRIGHT STOCK
40-45 Water White KEROSENE
300 OIL or MINERAL SEAL

When you want them—without delay—and of the unvarying quality which meets the strictest requirements, you or your trade can make.

This is a money-making combination for you. We have the facilities to handle your business with telegraphic speed—without delays which simply cut down your profits. Wire, phone or write.

THE PURE OIL COMPANY

Columbus, Ohio

Independent, and successful—through unvarying high quality in all products

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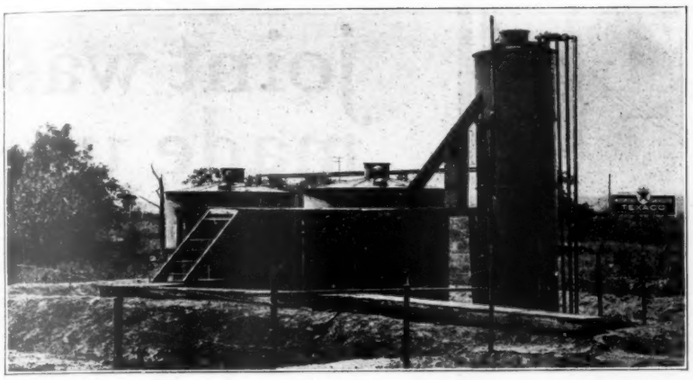
PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS



This battery of tanks — all Perfections—is saving money for the Gypsy Oil Co. on the Payne farm, Tulsa district.

Applying Horse Sense to the Oil Business

Stopping the leaks in one's business is usually the application of the term "Horse Sense."

Right now an oil producer's chief problem is stopping leaks. And not the smallest leak by any means is evaporation which gets in its work every hour in twenty-four.

Fortunately you now are no longer compelled to bear these losses. Our Perfection Vapor Pressure tanks, gas tight in construction, have effectually put evaporation to flight. Not a bit of crude gets away and the original gravity is maintained, thus insuring you the top price.

Time after time, it has been clearly demonstrated that Perfection Vapor Pressure Tanks will pay for themselves in a few days.

Under those circumstances why should you hesitate!

It's mighty handy to get in touch with one of our customers if you are in doubt as to any of our statements. You will find them in every field.

Better still, call up our branch representative. He will be glad to submit you facts and figures without a single obligation on your part.

Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

2-inch 4 1-2-pound Reading Upset Tubing (10 Thread)

This joint was made up- and broken out 14 times

IT WAS then made HAND tight and stood 2500 lb. test pressure without leaking. It was made up home and subjected to a pulling strain of 42 tons. The threads did not strip, and upon breaking out, showed them still fit for tubing service.

The natural quality of wrought iron plus skilled workmanship and strict tolerance limits explain such remarkable performance. Buy READING for your properties and secure the same results. Not only do you get pipe which resists corrosion and crystallization, but pipe, the threads of which withstand continual grief without galling.

OIL WELL SUPPLY CO., Distributors

Inquire at any of the 100 branches

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World's Largest Makers of Genuine Wrought Iron Pipe

READING PIPE

GENUINE WROUGHT IRON

The Best Coupling for Oil Field Work—Specify Harrisburg—and Look for the Trade Mark

Double strength seamless steel; no weld—consequently no weakness. Will not crack, strip, or gall. Clean cut threads insure easy stabbing. Perfect taper for tightest fit. No piping to develop leaks.

Specify Harrisburg Forged Seamless Steel Couplings and coupling failures disappear. It's straight ahead to pay sand when Harrisburg is on the job.

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2-inch 4 1-2-pound Reading Upset Tubing (10 Thread)

This joint was made up- and broken out 14 times

IT WAS then made HAND tight and stood 2500 lb. test pressure without leaking. It was made up home and subjected to a pulling strain of 42 tons. The threads did not strip, and upon breaking out, showed them still fit for tubing service.

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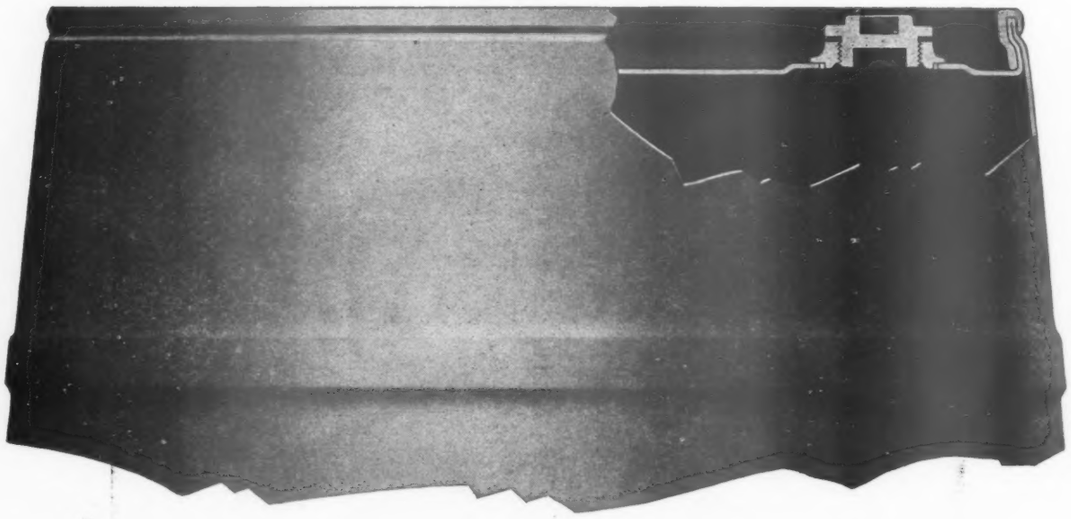
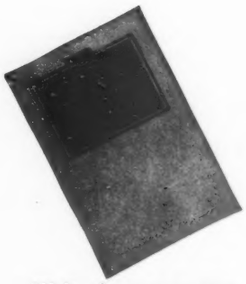


Complete Drainage— Yet Complete Protection



Write for your copy of this catalog

Notice how the head sheet of the G-E-M Bilged Steel Barrel is offset around the openings. It insures complete drainage. And at the same time, by elevating the plugs safely above the danger line, seepage of any foreign liquid accumulation from the outside is prevented.

Yet this feature does not expose the openings. When the G-E-M Bilged Steel Barrel is dropped on its head the plugs are protected by that welded-rolled chime which absorbs the jolts of rough handling.

Buy the G-E-M Bilged Steel Barrel in 55 gallons capacity, black, galvanized or tinned.

Also Presteel I. C. C and Light Gauge Drums and a variety of special containers.

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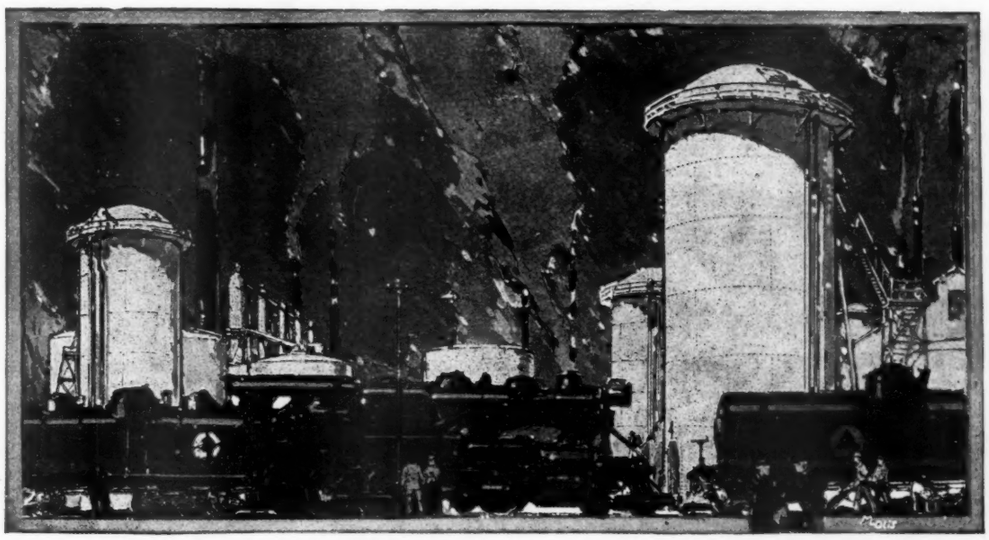
Pressed Steel Products Department
Sharon, Pa.

New York St. Louis Tulsa Houston Casper San Francisco



Best for Wear and Weather

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STEEL-KOTE

for tank cars is the most economical and efficient paint because it is practical under modern shop conditions, covers better and spreads farther than ordinary paints. It dries under all sorts of weather conditions—and it wears!

STEEL-KOTE over a proper priming coat means a tough, elastic film of excellent protective qualities preventing rust, pitting and corrosion. The black shade is preferable and is generally used as a top coater. Most economical because it serves longer and better.

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"Cook's Paints for the Oil Industry."

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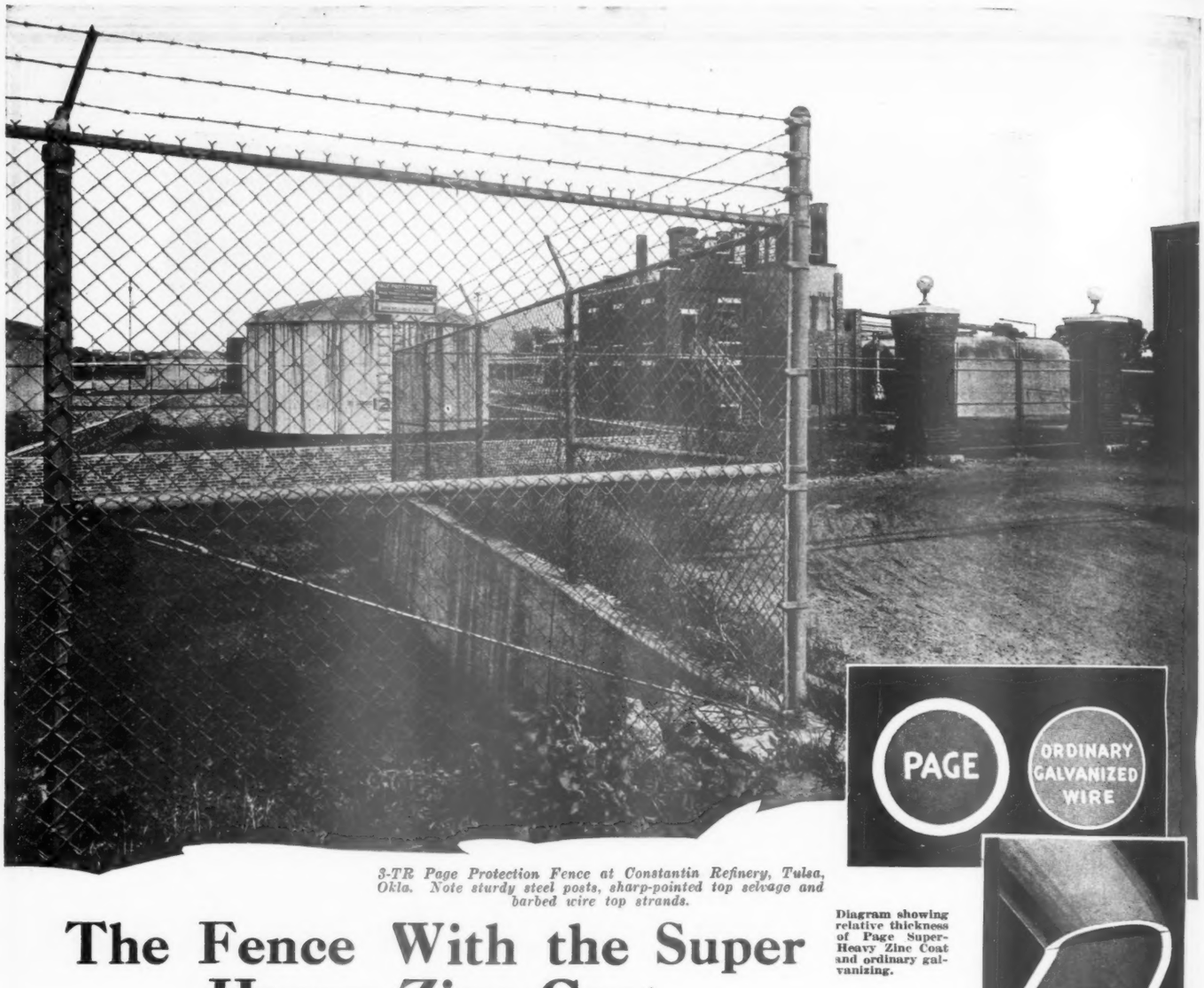

3-TR Page Protection Fence at Constantin Refinery, Tulsa, Okla. Note sturdy steel posts, sharp-pointed top selvage and barbed wire top strands.

The Fence With the Super Heavy Zinc Coat

Uniform, unbroken zinc coating—5 times as thick as that on ordinary galvanized wire---makes Page the last word in durable fencing.

Page formed, link-mesh is strong---unclimbable. The super-heavy zinc coat is smooth and uniform over the Page-drawn wire beneath---the result of the special Page process.

Here is a fence that will last in the corrosive, gas filled air of an oil refinery---the economical fence for tank stations.

There's a distributor within a few miles of you. Write for prices and estimates. No obligation;---address

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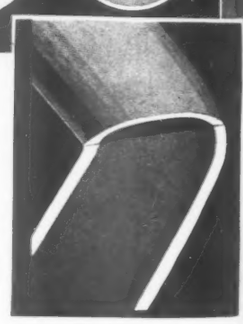

Diagram showing relative thickness of Page Super-Heavy Zinc Coat and ordinary galvanizing.

Uniformity is important. Diagram shows evenness of Page Super-Heavy Zinc Coat at bend.

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showing illustrations of typical industrial installations.

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